APPENDIX A - TERRAIN FLIGHT OPERATIONS

A.1 - PURPOSE

To establish policies and procedures for conducting daytime terrain flight operations while performing navigation training. Also identify normal training areas for terrain flight.

A.2 - OBJECTIVE

The objective of this training is to ensure all designated aviators maintain proficiency in daytime terrain flight maneuvers.

A.3 - REFERENCES

Terrain flight training will be conducted IAW AR/NGR/CA NGR 95-1, TC 1-201 Tactical Flight Procedures, the appropriate ATM, and other applicable regulations.

A.4 - TRAINING AREAS

A.4.1 - CLEVELAND NATIONAL FOREST:

The Cleveland National Forest lies approximately 40 nautical miles east of Los Alamitos Army Airfield. This terrain flight area lies wholly within the Cleveland National Forest. The elevation of the training area varies from approx 400 feet MSL up to 5,000 feet MSL. It is bounded on the northwest by the MAL Sites, the northeast and southwest by the boundaries of the national forest, and to the southeast by the boundary between the national forest and Camp Pendleton. The terrain flight area has pre-plotted routes approximately 25 km long. The area has several open areas, but no landing is authorized in the national forest. This training area is used extensively by AASF Los Alamitos for both daytime and NVG flight training. Caution should be exercised due to Marine Corps traffic that may cross the area enroute the MALS (See below).

A.4.2 - THE MOUNTAIN AREA LANDING SITES (MALS):

MALS lie approx 20 miles to the east of Los Alamitos Army Airfield. A description of the sites can be found in the Area Planning 1 of the Flight Information Publications (TBP for NFG, Camp Pendleton). Advisory control of the MAL Sites is provided on common frequency 305.9 or 123.025. All aircrews must comply with any procedures or restrictions listed in the FLIP (TBP). Pictures of the sites are located in Flight Planning Room. The MAL Sites are used for confined area and pinnacle operations as well as terrain flight under day, night, and NVG conditions.

A.5 - CONDUCT OF TRAINING:

1. Tactical flight training will be conducted IAW the following unless permission to deviate is granted by the Facility Commander or his/her designated representative:

A. All tactical training will be conducted with only authorized crew members at the aircraft controls.

B. A maximum crew of five may consist of the following when conducting tactical training:

1. Pilot and co-pilot
2. Crew chief and/or medic
3. SP/IP or enlisted instructor, flying as instructor

2. The PC will indicate on the flight plan all tactical areas, including the NOE course he/she plans to use during the training flight. Areas should be listed in the same sequence of use.
3. The pilot and co-pilot of all training flights that do not have an IP/SP on board, which are planned for the MAL area, will be mountain qualified.
4. The PC will contact Facility Operations on assigned FM or UHF Operations frequencies prior to departing the Airfield and upon returning to the Airfield. All aircraft operating in the tactical training area will monitor appropriate frequencies. Prior to making an approach or takeoff, into or from a landing site, the pilot will notify the safety aircraft or make a blind call on FM/UHR radio to alert other aircraft in the area of his intentions.
5. Practice autorotations will not be performed in the tactical training areas. Simulated engine failures at altitude, using power recoveries, over the tactical areas are authorized, providing power recovery calls are made to Operations, ATC, or another aircraft. 6. The on-board IP will have access to the controls at all times.
7. Tactical training will not be conducted after dark unless under the direct supervision of the Facility or unit and IAW the Night SOP. All aircraft will depart the tactical training are at official sunset unless approved for night tactical training.

A.5.1 - NIGHT TACTICAL OPERATION:

See NIGHT OPERATIONS APPENDIX

A.5.2 - WIRE STRIKE AVOIDANCE PROGRAM

1. All aircraft are to be flown in compliance with NGR 95-1, Minimum Safe Altitudes.
2. All flights into a tactical training area will be made IAW the following:
   A. Will be properly cleared for flight by an appropriate authority.
   B. Low level routes and tactical sites will not be used until a reconnaissance for wires is completed.
   C. Tactical operations that require flight into a low angled sun will not be conducted.
   D. Aircraft with crazed wind screens will not be used for tactical operations.
   E. Until properly surveyed, any area used for operations below five hundred feet AGL will be assumed to have wire crossing all flight routes.
   F. Personnel who detect uncharted wire or wire construction will notify all other aircraft in he area and report their location to Facility Operations.
   G. Only aircraft equipped with fully functional wire strike protection systems (WSPS) will be used for terrain flight.

A.6 - SAFETY:

Terrain flying is a crew activity conducted by at least two qualified aviators. A good safety program must be adhered to due to the critical flight environment in which terrain flying is conducted. A realistic and effective training environment may be developed without sacrificing safety by reconnaissance and thorough planning. The following safety precautions must be taken to make this training as safe as possible and to boost the aviators' confidence.

A.6.1 - INSTRUCTOR PILOT (IP)/STANDARDIZATION INSTRUCTOR PILOT (SP) NOE TRAINING.

1. Each IP/SP must be given instructions on flight techniques, method of instruction (MOI) and hazards of terrain training.
2. IP/SP qualification will be IAW the ATM.
3. The IP/SP must know his/her location at all times while conducting terrain flight.

4. All IP/SPs will plot any new or unplotted hazards found during training.

A.6.2 - TERRAIN FLIGHT AVIATOR TRAINING.

1. Each aviator must be given instruction on flight techniques, emergency procedures, and hazards of terrain flight.
2. Aviator qualification will be IAW the ATM.
3. The aviator must demonstrate ability to satisfactorily plan and fly a terrain flight mission upon course completion.
4. All aviators will plot any new or unplotted hazards found during training.

A.6.3 - AIRCRAFT REQUIREMENTS.

1. Aircraft used for terrain flight should have a clean windshield free from scratches.
2. Maintenance personnel will be briefed on special requirements to be completed. The requirements are:

(1) Windshields cleaned before each flight.

(2) Blades inspected at beginning of flight, at each refueling stop, and at completion of flight.

(3) During each daily inspection special attention will be paid to the tailboom, tail rotor blades, and crew restraint system.

(4) Aircraft must have two operational communication ratio sets for terrain flight.

A.7 - FLIGHT CLOTHING/EQUIPMENT:

The Nomex flight suit will be worn with the collar turned up. The flight helmet will have either the clear or shaded visor and will be down during flight. Each individual on board the aircraft will wear a survival vest and one PRC-90 survival radio will be in the possession of the flight crew member.

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APPENDIX B - INSTRUMENT FLIGHT PROCEDURES

B.1 - PURPOSE

Establish procedures and requirements for the initial qualification and annual re-qualification of the CA ARNG aviators in instrument flight. All training will be conducted IAW Fm 1-240, NGR 95-1, AR 95-1, and the aircraft ATM.

B.2 - GENERAL

B.2.1 - EVALUATIONS

B.2.1.1 - Initial Evaluation

Initial instrument evaluation is accomplished in the actual aircraft or the SFTS.

B.2.1.2 - Annual Evaluation

1. Aviators must complete an annual instrument evaluation IAW the appropriate ATM and AR 95-1 during designated APART quarter. These evaluations may be completed in the simulator or the actual aircraft.
2. Flight evaluations under IMC are encouraged if the aircraft is authorized for IMC flight. During IMC flight, all instruments and communications equipment in the cockpit will be kept in the ON position and immediately available for use.

B.2.1.3 - Pilot Requirements

A co-pilot is required for all hooded flights except the OH-58 aircraft where a qualified observer on current flight status is occupying the co-pilot's position. The observer or co-pilot must be able to see the ground at all times and must watch for other aircraft all times.
The aviator of an OH-58 aircraft may file and fly IFR flight plans if the aircraft will remain VMC throughout the flight.

B.3 - INSTRUMENT FLIGHT PROCEDURES

B.3.1 - QUALIFICATION AND REFRESHER TRAINING

Instrument qualification and refresher training will be conducted IAW the appropriate ATM.

B.3.2 - FLIGHT PLANS

All IFR flight plans will be reviewed and approved by the Duty Officer prior to being filed with the ATC system. NOTAMS and weather should be briefed back to the Operations Officer. Aircraft on an RON, or a long cross country flight, will only change the briefing for purposes or fuel stops, ATC preference, and avoidance of adverse weather. If major changes are required, the pilot-in-command will contact the Facility.

B.3.3 - VFR FLIGHTS

Aircraft will not be allowed to perform the mission VFR unless:

1. The aircraft is equipped to meet IMC requirements stated in AR 95-1.

2. Both pilots have coordinated with each other the actions they will take prior to entering marginal VFR weather. It is imperative that pilots agree to turn back or land prior to encountering weather such that IMC flight is required. If the decision is not made to avoid IMC weather then an instrument flight plan will be filed and flown from the departure point or the mission canceled prior to departure.

B.3.4 - INADVERTENT IMC

Due to the varied terrain throughout the local flying area and the extreme high density of air traffic in parts of the area, it is impractical to devise specific headings or altitudes for use by a pilot encountering IMC. Pilots should at all times be familiar with their position, and be cognizant of the minimum safe altitudes in the vicinity of their position. Pilots should be monitoring the local ATC frequency, or have the Air Route Traffic Control Center frequency immediately available so that if inadvertent IMC is imminent, a call for an IFR clearance can be made prior to entering IMC.

IFR/WEATHER PLANNING GUIDE

I. Obtain NOTAMS for departure airfield, enroute facilities, destination, and alternate airports. Check special notices in the reading file and not special procedures involving turbulence, flight in rain and snow, and other adverse environmental restrictions should be reviewed in the -10.

A. NOTAMS: Departure Airfield
Enroute Facilities
Destination Airport
Approach Facilities

B. WEATHER: Departure _____
Enroute _____

Winds Aloft _____

Obscured Mountains?

Is there severe turbulence?

Is there a better route?

Enter Departure Weather:

Ceiling _____

Visibility _____

Note: Check AR 95-1 for pilot departure minimums and DOD FLIP for non-standard departure weather.

Enter Destination WX:

Ceiling _____

Visibility _____

II. Compare with Approach Planning minimums and decide if you can legally file to the destination. If you decide you can file add 400 feet to the ceiling, and add one mile to the visibility. After adding compare the increased value with the forecast. If after adding the forecast is less than the sum of the two, you must select an alternate airport for your destination. After selecting an alternate check the weather ceiling and visibility of the alternate airport to see if it meets alternate airfield weather planning criteria.

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APPENDIX D - ALSE

D.1 - PURPOSE

The purpose of this Appendix is to establish responsibilities, policies, and procedures to assure maximum reliability from all Aviation Life Support Equipment (ALSE) used by flight crewmembers assigned to the Facility.

D.2 - SCOPE

All personnel participating in aerial flight, either as a pilot, crew member, non-crew member or passenger, will adhere to the requirements of this SOP. Only school trained Unit ALSE personnel and the Facility ALSE Technician will perform inspection and maintenance of ALSE in accordance with published directives and regulations. The use of ALSE, survival and protection equipment, as prescribed herein, will be worn, as required, on all flights IAW AR 95-1, NGR 95-1.

D.3 - MISSION

To provide an operational program for training, inspection, maintenance, repair, cleaning and/or replacement of all ALSE assigned to the Facility and supported units. Unit ALSE personnel will have access to the Facility ALSE Shop during normal duty hours. Each unit will have a space made available in the ALSE Facility as necessary to maintain unit ALSE material and equipment. Unit ALSE personnel may coordinate use of the ALSE room from the Facility ALSE Technician prior to drill or deployment. Such use will be supervised by the Facility staff.

D.4 - DUTIES AND RESPONSIBILITIES

D.4.1 - COMMANDER

The Commander will ensure that all applicable regulations are being followed and that the resources of time, personnel, money and assistance from other persons (see below) are provided in a timely and professional manner. He will ensure that all the required equipment is available and qualified personnel are given the time to perform their tasks.

D.4.2 - ASO

The ASO will monitor all activities for the commands to ensure the proper use of protective clothing and ALSE. Lack of or misuse of protective clothing and ALSE constitutes grounds for an Operational Hazard Report (OHR). OHRs will be submitted on a DA Form 2696-R (Operational Hazard Report) IAW 95-1 and AR 385-95. The ASO will maintain the records for annual ALSE training during the Safety Stand-down and ensure time is allotted for this training. The ASO will inspect the facility ALSE shop quarterly and sign the log IAW with Fm 1-508.

D.4.3 - FLIGHT SURGEON

Flight Surgeon will provide assistance to the ALSE Technician in aero medical aspects of ALSE and will conduct periodic inspections of the ALSE Shop IAW FM 1-508.

D.4.4 - ALSE OFFICER

Aviation Life Support Officer (ALSO) will also be ALSE maintenance qualified IAW AR 95-1; NGR 95-3; NGR PAM 385-95; FM 1-508 and will be appointed on orders. He/she will assist, advise,

and represent commanders in all matters pertaining to the Aviation Life Support System (ALSS). The ALSO will:

1. Review, analyze, and develop procedures for planning, budgeting, and maintaining the ALSS
2. Ensure that aircrew personnel are trained in the proper operation, use, and maintenance of survival equipment and the techniques of survival.
3. Supervise the Life Support Section and ensure that qualified personnel are available for conducting life support, survival training and maintenance of organizational level ALSE.
4. Keep a current file of regulations, procedures, and TMs pertaining to inspection, maintenance and use of assigned life support equipment.
5. Ensure that all members of the Facility have adequate information and training before using equipment or system changes.
6. Ensure that the Facility encourages life support equipment suggestions and OHRs.
7. Ensure that material deficiency reports are submitted on life support equipment failing to operate as designated.
8. Participate as an ALSE Member on the Facility Aviation Safety Council.
9. Assist higher headquarters in standardizing their ALSE Program amongst the supported units and facilities within the state.
10. Prepare an ALSE budget or ensure higher headquarters prepares one for him. Ensure that units are provided with a copy of the ALSE budget and assist them with the production of an ALSE budget in the event of activation.
11. Coordinate the annual survival-training requirement with all supported units.
12. Plan annual ALSE training for all units on the annual Safety Stand-down day.

D.4.5 - ALSE TECHNICIAN

Aviation Life Support Technicians (Aircraft Survival and Flight Equipment Repairers) will be ALSE maintenance qualified IAW 95-1; NGR PAM 385-95; FM 1-508 and will be appointed on orders. They will assist, advise and represent the ALSO in all matters pertaining to ALSE. Specifically, whey will:

1. Establish a library of ALSE publications and ensure that the Facility's pinpoint distribution account is updated to include ALSE publications and necessary forms for inspections and maintenance of life support equipment.
2. Ensure that all ALSE is maintained in a high state of readiness through inspecting, cleaning, fitting, adjusting, and repairing. Provide assistance and guidance to the Unit ALSE personnel and ensure that unit ALSE is also maintained in a high state of readiness.
3. Maintain records and files on inspections, maintenance, expiration dates, and supply pertaining to ALSE IAW the appropriate technical manuals (TM). Provide assistance and guidance to unit ALSE personnel to ensure unit records and files on inspections, maintenance, expiration dates, and supply pertaining to Unit ALSE is IAW the appropriate TM.
4. Assist supported unit's ALSE Officers and NCOs by providing and/or coordinating the necessary facility resources to ensure that they have a viable ALSE program. The ALSE Technician is responsible for assisting supported units to meet all ALSE program inspection criteria.
5. Participate as enlisted representative at Aviation Safety Meetings and ALSE Conferences/Workshops.

6. Be responsible for the inspection and inventory of all controlled drugs used in survival kits and survival vests.
7. Maintain clothing and equipment in a high state of readiness to include assisting the facility supply NCO in ordering, receiving, issuing, requisition, follow-up, inventory and accountability.
8. LAAASF supply will function as a limited CIF for supported units IAW other published guidance. All initial issue will be through the supply section. Aircrew will then take the equipment to ALSE to be inspected prior to use. An equipment locker will also be issued through the ALSE shop.

D.5 - INITIAL ALSE ISSUE

As a limited CIF, LAAASF will provide an initial issue of the following equipment;

Flight Suit	3 Each
Flight Gloves	2 Each
Jacket, Flyers (Summer)	1 Each
Jacket, Flyers (Winter)	1 Each
HGU 56/P Helmet	1 Each
SRU-21/P survival vest (or equivalent)	Each (as auth by CTA 50-900)

1. DX of unsafe or damaged flight gear will be initiated through ALSE. If possible an immediate exchange will be made; otherwise the equipment will be properly tagged and the crewmember will be directed to the Supply section. In no case will the crewmember fly with unsafe or damaged gear.
2. Upon separation or transfer, the crewmember will return all serviceable flight gear back to the CIF (supply) to clear his/her hand-receipt.
3. The ALSE Technician will ensure all personnel working on ALSE are school trained (qualified-Q2) with orders on file in the ALSE shop. Non-school trained personnel may assist in the ALSE shop provided that they are under the direct supervision of the ALSE Tech or ALSO at all times. They will not sign off any inspections for any ALSE equipment.

D.5.1 - PILOTS-IN-COMMAND (PIC)

1. Pilots-in-command will ensure that all ALSE commensurate with the mission and the operational environment is available on the aircraft and the aircrew members and passengers are briefed on its location and use IAW AR 95-1 and applicable ALSE publications.
2. Ensure all aircrew members wear required survival and safety equipment during flight operations.
3. Ensure at least one operable survival radio will be worn by an aircrew member. If available, an operable survival radio for each aircrew member will be carried in their survival vest. As a minimum, one individual survival kit will be on board the aircraft. Each survival vest and aircraft survival kit (AMSS) will have an updated DD form 1574 (yellow) serviceability tag attached. The survival vest yellow tag will be located in the inside pocket and the AMSS kit will have the yellow tag taped to the top of the box. The SPH-4 helmet will be labeled with the current inspection expiration date on the back of the helmet.

4. Ensure that there are seat belts installed for all personnel seated inside the aircraft and that all passengers are thoroughly briefed on their use.
5. If applicable, ensure that patients on litters are secured by litter-restraining straps during take-offs, landings, and during times of turbulence.
6. Ensure all aircrew members are in proper and serviceable flight uniform, collar up, sleeves down, IAW AR 95-1, during all aircraft operations. The proper uniform will be:
    1. Leather boots (no zippers)
    2. Flight helmet
    3. Flight suit
    4. Flight gloves (Nomex)
    5. Cotton, wool, or Nomex undergarments
    6. Identification tags (no blackrubber or plastic covering)

D.5.2 - Individual Aircrew Members

The Aircrew Member will:

1. Comply with all regulations, ALSE publications, the provisions of this SOP, and their Unit ALSE SOP.
2. Ensure that the required periodic inspection has been accomplished on his/her personal flight gear and the DD form 1574 (inspection tag) is current. A label displaying the inspection due date is placed on the back of the aircrew member's helmet, and the survival vest has the yellow inspection tag on the inside pocket. The inspection dates for these items should match.
3. Perform a preflight inspection of all ALSE prior to each flight, and a post flight inspection of all ALSE.
4. Be responsible for care, cleaning, serviceability and security of personal ALSE.
5. Ensure that the survival vest and helmet remain in assigned ALSE lockers when not in use. It is recommended that ALSE equipment not be removed from the Facility except for approved schools so that it can be inspected by ALSE personnel on or before the inspection due date. If the gear is not in locker when it becomes due for inspection then the crewmember's name will be added to a suspension list in Operations. He/She will then be restricted from flying with their own equipment until they have ensured that it has been inspected. In the interim a loaner helmet may be checked out from operations.
6. ALSE worksheet requests are provided to the right of the interior ALSE door. The completed request is then left in the bin provided so that the ALSE Technician can initiate the repairs.

D.6 - First Aid Kits

D.6.1 - ALSE Technician Responsibilities

1. Responsible for inspection, repair and/or replacement of all first aid kits issued to crew members or aircraft assigned to the Facility.
2. Monitors the inventory of replacement components for the first aid kits at the Facility.
3. Responsible for the proper disposal/destruction of expired medical components of the first aid kits.
4. Maintains records for accountability of controlled/non-controlled substance components of the first aid kits. All substances referred to in this SOP are 6505 Medical Materials.

5. May certify other technicians or crewmembers IAW AR 95-1 and TM 1-1500-204-23-1, par 11-19j, to inspect Aircraft First Aid Kits.

D.6.2 - MAINTENANCE PERSONNEL RESPONSIBILITIES

1. Responsible for inspecting and maintaining the first aid kits assigned to facility aircraft.
2. Prepares and maintains records pertaining to the aircraft first aid kits.
3. Reports to ALSE Technician any shortages of medical supplies or difficulties with completion of inspections.

D.6.3 - CREWMEMBER RESPONSIBILITIES

1. Each crewmember is accountable for the components of the first aid kits issued. This includes controlled and non-controlled substances.
2. Components of the first aid kits will only be used in a medical situation where it is unreasonable to find another source (i.e. aspirin) to meet a non-urgent need.
3. Use of any component of the first aid kit will be reported immediately to the appropriate life support personnel or authorized technician so it can be properly replenished, inspected and brought back into service.

D.7 - SHOP OPERATIONS

D.7.1 - EQUIPMENT ISSUE, STORAGE, AND MAINTENANCE

1. AN/PRC-90 survival Radios, ELTs, and LPU-10/P Life Preservers will be stored in a secure cabinet in the Facility Operations Office. Respective unit's survival radios (AN/PRC-90) and life preservers (LPUs) may be consolidated and stored in Flight Operations to support AFTPs. Unit equipment will be signed for by the Facility property book officer.
2. The Facility ALSE Technician along with the Unit's ALSE personnel will maintain equipment IAW all regulations, publications, and the provisions of this SOP. The primary storage area will be in the Facility Operations Office. Above referenced equipment will be returned to ALSE only for inspection and/or repair.
3. Operations will administer a system that provides for temporary issue and accountability of equipment for use on flights. Operations personnel will sign out equipment to crewmembers on the equipment sign-out register.
4. Units may maintain some of their own equipment (PRC-90 radios, LPU10s) that the facility finds excess to normal support operations. They will then be responsible for maintaining that equipment and ensuring it is inspected in a timely manner IAW all applicable regulations and TMs.
5. Training flotation equipment will be marked "FOR TRAINING ONLY" prior to being stored.
6. Unit Night Vision Devices (NVDs) are consolidated and stored in a vault style cabinet in the Flight Operations area. They are signed for by the Facility property book officer. All maintenance is administered by the Facility NVD NCO and is not a function of ALSE Operations.

D.7.2 - OPERATIONS ISSUE

The following equipment is available for use by aircrew members and passengers that may be signed out from the Facility Operations Center.

AN/PRC-90 Survival Radio

ELT
Individual Life Preserver (LPU)
Headset
Earplugs**
Night Vision Devices
Hood
Personal Restraint Harness

D.7.3 - EXPENDABLE ISSUE ITEM

Bench stock of repair parts for personal ALSE equipment will be maintained in the ALSE shop. Replacement parts for the aircraft survival kits will be stored in the ALSE storage area in hanger 1. All overstock of ALSE repair parts will be stored there also. All bench stock will be maintained IAW appropriate supply regulations.

D.7.4 - INDIVIDUAL ALSE STORAGE

1. All aircrew members shall be assigned a metal, securable locker within the Facility Locker Room. Aircrew members are required to store the following items of equipment in their assigned locker when not flying: SPH-4 Helmet, Survival Vest, Flight Gloves, Helmet Bag, and Personal Restraint Harness. Approved exceptions to this policy include attending a flying course of instruction, annual training or flight simulator training. A copy of orders or a note explaining the absence of the flight gear should be placed in the locker by the aircrew member.
2. Small accessories regularly used by the crewmember on flights may also be stored in the locker. (IE: flashlight, kneeboard, skullcap, etc). Larger items must be stored in a separate location. Lockers to store additional equipment are located in the restroom areas and are available for issue through the ALSE office.
3. Any items found in the helmet lockers that are not supportive of the flight environment will be removed by the ALSE Technician and turned over to the appropriate facility Instructor Pilot (IP). The crewmember can then coordinate with the IP for retrieval of the items.

D.7.5 - HOURS OF OPERATION

The Facility ALSE Shop will be available during normal duty hours, based on the Facility's work schedule. Access during non-duty hours requires prior coordination with the Facility ALSE Technician for signing out the ALSE Shop.

D.8 - ALSE INSPECTION CRITERIA, INTERVALS & REFERENCES

D.8.1 - SRU-21/P SURVIVAL VEST / AIRCREW SURVIVAL VEST TYPE I (SARVIP)

The Survival Vest components list is provided in Annex DB. All life support items will be inspected or tested at required intervals according to appropriate Army technical manuals, Air Force technical orders, and Navy NAVAIR publications. Survival Vests will be inspected before issue and every 120 days according to TM 55-1680-317-23&P. Inspection results will be recorded on DA Form 2408-25.

D.8.2 - FLIGHT HELMETS

Helmets will be inspected every 120 days IAW TM 1-8415-216-12&P. Night vision goggle mounts will also be inspected every 120 days. These inspections will be completed by personnel trained

and on orders to perform NVD maintenance. Inspection results will be recorded on DA Form 2408-22.

D.8.3 - SURVIVAL RADIOS

AN/PRC-90 radios will be tested monthly. Surplus operational radios not used in daily flight operations will be inspected every 120 days. The AN/PRM-32 test set will be used to test the radios IAW TM 11-5820-800-13&P. Results will be recorded on DA form 2408-23. Batteries for the AN/PRC-90 are tested monthly before testing radios using the TS-2530A/UR IAW TM 11-5820-800-1. If other survival radios come into the inventory they will be inspected according to the applicable manuals. The test sets will be on the TDA or, if unavailable, signed for from the supported units on a hand receipt.

D.8.4 - PERSONAL RESTRAINING HARNESSES

Inspection of personal restraint harness will be IAW TM 1-1500-204-23-1 and Operators Manual.

D.8.5 - LIFE PRESERVERS

LPU-10/P will be inspected annually per ALSE Message _____ and TM 5-4220-202-14/TO 14S-1-102. Inspections will be annotated on DA Form 2408-26 and DA Form 2408-27. The DA Form 2408-27 will accompany the individual life preserver at all times.

D.8.6 - SURVIVAL KITS

All survival kits will be inspected before issue and every 360 days IAW TM 55-1680-354-23&P. Inspection results will be recorded on DA Form 2408-24.

D.8.7 - HARNESS ASSEMBLY, AIRCRAFT.

Safety personnel retaining harness will be inspected every 120 days according to TM 1-1500-204-23-1 by the Facility ALSE Technician and prior to each flight by the crewmember.

D.8.8 - CPC

All ALSE equipment will be incorporated into the Corrosion Prevention Control program IAW TM 1-1500-328-23 and other applicable TM's and TB's. The maintenance SOP also addresses CPC. All corrosion whether metal or otherwise will be monitored, cleaned and reported as necessary IAW applicable regulations.

D.9 - INSPECTION RECORDS

Any ALSE items failing to pass required inspections or tests will be tagged with appropriate DD Form 1577 (Unserviceable [Condemned] Tag) or DD Form 1577-2 (Unserviceable [Repairable] Tag). Items which can be repaired locally will be stored separately from serviceable items until repairs are completed. Personal flight gear for personnel TDY or extended medical groundings will be tagged (DD Form 1577-2) and kept in the person's locker. All other items will be processed for repair, turn-in, or replacement through appropriate maintenance or supply channels. All support files and equipment records pertaining to ALSE will be maintained in the Facility ALSE Shop.

D.10 - ALSE LIBRARY

A complete and current library of all publications pertaining to applicable ALSE will be maintained in the ALSE shop. Those publications not on hand will be documented and ordered through the appropriate publications NCO/Officer.

Units will be allocated space to keep their ALSE libraries within the ALSE shop. Ordering unit publications and posting changes will be a unit responsibility.

D.11 - PREFLIGHT PROCEDURES

Aircrew members should use the following ALSE inspection PMCS procedures prior to each flight.

D.11.1 - FLIGHT HELMET.

1. Lower and raise visor to ensure it moves freely in its tracks. Inspect visor lock to ensure it locks visor in lowered or retracted position. Inspector visor for any obstructions to vision.
2. Checks for cracks, defects and cleanliness.
3. Check the retention assembly for defects and cleanliness.
4. Inspect ear cup tension, cross straps, spacer pads, headband and suspension assembly for defects and cleanliness.
5. Check ear cups and wiring harness for obvious damage.
6. Check microphone, boom and cord for damage.
7. Check edge beading for rips/tears, etc.
8. If applicable, check TPL for defects and Velcro tab security.
9. Exterior of helmet for loose or missing screws. Shell for cracks, damaged surface, etc.

D.11.2 - SRU-21/P SURVIVAL VEST/ SARVIP

1. Check for holes, cuts, tears, broken or loose stitching.
2. Defective slide and snap fasteners.
3. Torn or missing fastener tape.
4. Check for any defects and cleanliness.

D.11.3 - AN/PRC-90 SURVIVAL RADIO.

1. Inspect metal surfaces for signs of rust and corrosion.
2. Inspect back plate pressure equalization vent for damage.
3. Inspect strap for mildew fungus, dry rot, or tear damage.
4. Check the battery cap and retainer for proper removal and assembly, broken retainer, and internal corrosion.
5. Check antenna for corrosion, cross-threading or bent connector parts, sealing washer present and not deteriorated.
6. Battery should be removed and checked for signs of corrosion or alkaline leakage.
7. Check controls, operate switches, and check for chipped paint, legible identification symbols and normal operation.

D.12 - PYROTECHNICS

All pyrotechnics related to ALSE are maintained by the Facility ALSE Shop and stored IAW TM 9-1300-206, TM 43-0001-37, TM 55-1680-317-23&P and FM 1-508. The lot number and date of manufacture for all applicable pyrotechnics will be logged on the appropriate DA form 2408. Pyrotechnic inventory documents will be updated every 90 days and posted on the pyrotechnic locker. Appropriate fire hazard signs will be affixed to the locker and on all entrances to the ALSE shop IAW TM 9-1300-206, TM 43-0001-37, TM 55-1680-317-23&P and FM 1-508.

D.12.1 - PYROTECHNICS TRAINING

Pyrotechnics are to be made available for survival training and any other training opportunities as long as proper safety measures are followed. The use of pyrotechnics for training must be approved by the unit safety officer and coordinated with the post fire department.

D.13 - EQUIPMENT INVOLVED IN ACCIDENT OR INCIDENT

1. Any ALSE involved in an aircraft mishap will be handled IAW AR 385-95 and DA PAM 385-95.
2. ALSE released by the Accident Investigation Board will be inspected prior to re-issue.
3. ALSE not released will be forwarded to Fort Rucker.
4. Interface Between LAAASF and Supported Units

D.13.1 - UNIT RESPONSIBILITIES

Unit personnel will be responsible for inspection and maintenance of equipment during IDT weekends, AT, and mobilization. Additionally the units will inspect some of their equipment every quarter to maintain proficiency.

D.13.2 - LAAASF ALSE TECHNICIAN RESPONSIBILITIES

The LAAASF ALSE NCO/Technician will assist the units to maintain their shop and bench stock. Upon mobilization, the supported units ALSO or ALSNCO will draw their equipment, flyaway benches, logbooks and any other unit equipment. The Facility ALSO and ALSE Technician will provide a sample of work on a quarterly basis for the unit ALSE personnel to work on. As a minimum they will provide one of each piece of equipment (survival kit and radio, LPU, NVG etc.) and two sets of personal gear.

D.14 - USE OF LAAASF ALSE SHOP

The LAAASF will provide supervised use of the ALSE shop and equipment for inspection and testing during normal duty hours or when prior arrangements have been made. The intent is for the Facility to give unfettered access so the units' can perform their ALSE mission.

D.14.1 - ALSE TRAINING

The Facility will provide ALSE training to all crewmembers annually during the Safety Stand-down day. The Facility will coordinate the annual required survival training amongst all supported units to help fulfill the requirement and ensure all soldiers receive this training. The Facility will provide additional ALSE training as required for crewmembers required to support State or other missions which require specialized training not a normal part of crewmembers mission training (snow, mountain, over-water operations etc.)

D.14.2 - DEPLOYMENT

All units must be able to stand alone upon deployment and the Facility has a responsibility to help ensure their ALSE program can successfully deploy. Upon activation each unit will take their work bench and associated bench stock/shop stock, publications (including Form 12 changes), unit and personal ALSE equipment. Each unit will develop an ALSE budget of their own based upon the demand generated within the preceding year. They will prepare additional documentation for the visits, inspections and mandated requirements of any ALSE shop (FM 1-508). They will identify who will be supporting them when they get to their deployment location so they know how

they can complete inspections requiring equipment that is normally not available at the unit level. (This is important and the ALSE NCO and officer will assist as required.) They will prepare their SOPs for their expected deployment locations and identify any special ALSE equipment or training required for the deployment location. (Bosnia needs one thing, Kuwait another and the mountains need another type of training/equipment.)

APPENDIX E - RESUPPLY AND CARGO OPERATIONS

E.1 - PURPOSE -

To give general guidance when conducting resupply and cargo carrying operations.

E.2 - ALL CA ARNG AVIATORS AND CREW MEMBERS WILL ENSURE THAT:

1. A PPC card is completed using the highest density altitude and temperature forecast for the day.
2. Internal cargo is loaded as indicated in the appropriate operator's manual and is secured by cargo straps.
3. Flammable materials will not be hauled internally unless approved by the Unit or Facility Commander.
4. A briefing is received which includes the objective, weather, recent regulation changes and SOP changes, terrain and known hazards, use of safety equipment, inadvertent IMC recovery procedures, and review of ground handling procedures for all personnel.
5. The current and forecast density altitude is known.
6. The max gross weight authorized for the aircraft for the given conditions is not exceeded.
7. A weight and balance is figured and will not exceed CG limits.
8. External load operations will be conducted IAW procedures outlined in TC 1-201 and the ATM prior to each mission performed in the Facility aircraft, a comprehensive mission briefing will be conducted by the Facility Commander or his/her designated representative to include the specific parameters of that external load operation, coordination procedures, emergency procedures, and duties and responsibilities.
9. When fused NBC chemicals are carried internally, one aviator must wear his/her protective mask and a protective mask must be available to all other members of the crew.

See AR 95-1, para 3-23, Protective Mask Requirements.
See AR 95-27, Operational Procedures for Aircraft Carrying Hazardous Materials.

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APPENDIX F - TRAINING AND ORIENTATION FLIGHTS

1. All new aviators will be thoroughly briefed by the assigned flight instructor on the following procedures and requirements.
   A. Interview with the aviator to determine background, experience, qualifications, etc.
   B. Thorough review of the Individual Aircrew Information File and completion of the AFOD Data Base Card.
   C. Complete Facility Crew Member Set-Up Checklist.
   D. Ensure the individual meets the appearance requirements of AR 95-1.
2. All aviators must complete a local area orientation (day and night) prior to assuming PC/PI duties in the local area (as assigned aviators to the facility).
3. For Spouse Orientation Program refer to para C-3 and NGR 95-3, para 3-4.

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APPENDIX G - GUNNERY OPERATIONS

Aerial Gunnery will be conducted IAW the appropriate unit SOP. This Facility does not conduct Gunnery operations as a routine matter.

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APPENDIX H - NIGHT OPERATIONS

H.1 - PURPOSE

To provide guidance to units and crew members engaged in unaided and aided flight training supported by AASF Los Alamitos.

H.2 - SCOPE

This Appendix is all encompassing. Crew members, passengers and support personnel are subject to the provisions contained herein.

H.3 - RESPONSIBILITIES

- Operations Officer/Briefing Officer will ensure:
- Prior to flights, that all participating crew members are qualified and current in the type of aircraft to be flown and that for NVG operations all crew members are NVG qualified and current. The only exceptions are when an SI/FI/IP/SP is conducting qualification, refresher, or currency training or a UT/IP/SP/SI/FI/NCT is conducting mission training. NVGs are signed out on the correct equipment sign-out log or hand receipt. The user's PMCS is completed IAW the ANPVS/ANVIS -10. The batteries are distributed IAW the battery usage policy stated in this SOP. When NVGs are returned they are properly stored in their storage cases and the storage cases are secured properly in Operations. Avionics will provide maintenance and inspections of NVGs as authorized.
- Avionics Technician will: Provide maintenance and inspections of NVGs as authorized. Provide security of NVGs in the NVG Shop that are under his/her control. Ensure maintenance records and log books are maintained IAW the latest appropriate guidance. Provide operations with NVGs and related equipment as required for each night's NVG operations.

H.4 - CREW DUTIES

- Unless briefed otherwise, applicable Facility standardized terminology in will be followed by all crews while under the administration of the Facility.
- The PC is responsible for assigning crew duties before each aided or unaided night flight. As a minimum the PC will brief the crew using an approved crew briefing sheet.
- The PC will brief other assignments as required, to include but not limited to the following.

H.5 - STANDARDIZED TERMINOLOGY

Standardized terminology must be established among the mission participants. Several key words and phrases are listed and defined below:

Abort	Terminate a preplanned aircraft maneuver.
Affirmative	Yes
Break	Immediate action command to perform an emergency maneuver to deviate from present ground track; will be followed by the word "right," "left," "up," or "down."
Clear	No obstacle present to impede aircraft movement along

	the intended ground track. Will be preceded by the word "nose," "tail," or "aircraft" and be followed by a direction (i.e. "left, " "right," "slide left," etc.) Also indicates that ground personnel are authorized to approach the aircraft.
Come Up/Down	Command to change the altitude up or down; normally used to control masking and masking operations.
Contact	Object in sight.
Drifting	An alert to the unintentional or undirected movement of the aircraft; will be followed by the word "right," "left," "backward," or "forward."
Execute	Initiate an action.
Fly Heading	Command to fly an assigned compass heading (this term generally is used in low-level or contour flight operations).
Go Ahead	Proceed with your message.
Hold	Command to maintain present position.
Inside	Primary focus of attention is inside the aircraft for longer than two or three seconds.
Outside	Primary focus of attention is outside the aircraft.
Jettison	Command for the emergency or unexpected release of an external load, stores, or door.
Maintain	Command to continue or keep the same.
Monitor	Command to maintain constant watch or observation.
Negative	Incorrect or permission not granted.
Negative Contact	Unable to establish communication with (followed by the name of the element) or not in sight.
Put Me Up	Command to place the P*s radios transmit selector switch to a designated position; will be followed by radio position numbers on the intercommunication panels (1,2,3,). Tells the other crew member to place a frequency in a specific radio.
Release	Command for the planned or expected release of an external load.
Roger	Message received and understood.
Say Again	Repeat your transmission.
Stand By	Wait; duties of a higher priority are being performed and the request cannot be complied with at this time.
Stop	Command to go no further; half present action.
Traffic	Refers to friendly aircraft that present a potential hazard to your current route of flight; will be followed by an approximate clock position and the distance from your aircraft with a reference to altitude (high or low).
Turn	Command to deviate from the present ground track; will be followed by the word "right," or "left," a specific heading in degrees, a bearing ("turn right 30 degrees"), or instructions to follow a well-defined contour ("follow the

	draw at 2 o'clock).
Unable	Indicates the inability to comply with a specific instruction or request.
Up On	Indicates primary radio selected; will be followed by radio position numbers on the intercommunication panels "up on 1, up on 3."

H.6 - DISORIENTATION PROCEDURE

If disorientation is encountered proceed as follows:Initiate a climb to at least 500' AHO, as weather permits. Clear the aircraft during the climb. Once reoriented, re-enter the training area. If unable to reorient yourself, request assistance from local ATC.

H.7 - STANDARDIZED RADIO CONFIGURATIONS

- Figure 1 thru figure 5 show the standardized radio configuration for Facility aircraft. The maintenance status board in Operations will indicate by an astrik (*) any aircraft that is not standardized.
- Pilots must note and familiarize themselves with any non-standard radio configuration prior to any night flight.

H.8 - CARE AND SECURITY OF NIGHT VISION GOGGLES

- NVG battery packs will be maintained by ALSE and the usage of batteries will be as follows: Batteries will be maintained in containers marked NEW, USED, or BAD. NEW batteries are unused batteries. USED batteries are batteries that have been used in NVG operations with no noted problems. BAD batteries are batteries in which the low battery indicate visor light comes on or blinks at a steady rate. New batteries will be placed in the battery compartment with a piece of tape. The tape will be white and on the compartment closest to the power cord. The battery holder containing new batteries will also be marked with a piece of white tape. Used batteries will be placed in the opposite compartment and will be the primary batteries and will be used until the low battery light illuminates. When a crew member returns from flying NVG they will remove the batteries and place them in the correct container.

H.9 - UNAIDED AND AIDED FLIGHT ROUTES AND REQUIREMENTS

H.9.1 - GENERAL

Common Advisory Frequencies will be used in approved training areas to enhance aircraft avoidance. ATC will provide separation for aircraft in Los Alamitos Airport Traffic Area and during operations in the Airport Radar Service Area.

H.9.2 - DEPARTURE ROUTES.

Katella Departure - Aircraft will depart on the Katella Route as published in AFRC Reg 95-1. Aircraft will maintain 1,500 feet MSL until reaching the release point. Aircraft will remain sough of Katella Blvd by a minimum of 200 meters. At Anaheim Stadium aircraft will cross the river and turn left, staying to the right side of the river. Aircraft will then change to the appropriate

advisory frequency before reaching Gypsum Canyon (305.9 - identified by the open pit mine and the large yellow lights). This is the release point for entrance into the MAL Site area.
Class C Departure - Aircraft will make a Class C departure with routing direct to either Lake Irvine or Sitton Peak. Aircraft will not descend prior to having at least one radio tuned to the appropriate common traffic advisory frequency.

H.9.3 - ARRIVAL ROUTES.

Katella Arrival - For the purpose of this SOP the Katella Route begins at Gypsum Canyon. Aircraft outbound from the training area will remain on the right side of Gypsum Canyon. Aircraft will cross Gypsum Canyon checkpoint at 1,700 feet MSL. At the checkpoint the aircraft will cross the river and turn left, remaining on the right side of the river until able to proceed direct to Disneyland. Aircraft will then contact Los Alamitos Tower and descend to 1,500 feet MSL and comply with AFRc Reg 95-1.
Class C Arrival - Aircraft will climb up from the training area and contact approach control and request radar advisories.

H.10 - IIMC

- There is no approved VHIRP for any training area.
- In the event of Inadvertent IMC, the pilot on the controls will announce that the aircraft is IMC and transition to the instruments.
- The pilot on the controls (P*) act as follows:
  a. Level the aircraft.
  b. Maintain heading or turn only to avoid known obstacles.
  c. Adjust to maximum climb torque, as required.
  d. Adjust to climb airspeed.
  e. Climb to at least 7,000 feet MSL.
  f. If NVG, flip up goggles at earliest convenience.
- The crew member not on the controls acts as follows:
  a. Confirm the aircraft is IMC.
  b. If NVG, flip up goggles.
  c. Make radio calls advising other aircraft your aircraft is IMC.
  d. Monitor instruments to ensure the P* is not spatially disoriented.
  e. Squawk 7,700.
  f. Coordinate with ATC on the appropriate Guard frequency for emergency instructions (121.5 or 243.0).

H.11 - WEATHER REQUIREMENTS

H.11.1 - UNAIDED.

- Night special VFR departures are not authorized without specific approval from the Briefing Officer.
- Training. When weather conditions are less than ideal for the type of training being conducted, the IP in conjunction with the Briefing officer, will determine whether or not the weather will interfere with safe, efficient training.

H.11.2 - AIDED.

- NVG training will not be conducted in the training areas when forecast or known weather conditions for the time of the flight thru one hour after the completion of the flight is less than 1,500 feet ceiling and three miles visibility. An exception to this requirement is when operating in the traffic pattern at Los Alamitos Army Airfield.
- During NVG qualification, refresher, or mission training the Briefing Officer should take special consideration if known or forecast winds are in excess of 20 KTS.

H.12 - AUTHORIZED SUPPLEMENTAL LIGHT SOURCES

H.12.1 - CREW MEMBERS.

- **Unaided -**The PC is the final authority depending on mission requirements as to the type of filters that are required on the lights.
- **Aided -** Blue-green lights are the only authorized lighting to be used during NVG operations. Lip lights, finger lights, chem light sticks or other devices that are blue-green and do not interfere with mission accomplishment may be used at the PC's discretion. NVG supplemental lighting does not meet the flash light requirements of AR 95-1. White or red flash lights may not be used except for ground operations or in the cargo compartments of utility and cargo helicopters at the discretion of the PC. Lighting will conform with any applicable NVG messages.

H.12.2 - AIRCRAFT.

- An infrared band-pass filter/pink light modified search/landing light must be installed and operational prior to NVG operations. If the IR band pass filter/pink light becomes inoperable during a mission the PC will evaluate the impact on the mission accomplishment. The PC's actions may vary from a minor mission adjustment to termination of the mission.
- Anti-collision lights and position lights, on steady bright, will be on at all times above 200 feet AHO. Below 200 feet AHO, while in the approved training area, position lights may be on steady dim, and anti-collision light may be turned off.
- Unless superseded by regulation, red or white lighting of any radio control pane, instrument, switch panel, master caution, or other interior light must be taped, filtered, or be turned off during NVG operations to eliminate effects of red or white lights.

H.12.3 - AIRPORT, HELIPORT, LZS.

- **Unaided -** Any lighting that illuminates the intended landing area sufficiently can be used.
- **Aided -** Any type lighting that does not interfere with NVG operations may be used at the discretion of the PC while conducting NVG operations in the field. Operations at brightly lit locations can be used at the discretion of the PC.

H.13 - MULTI-SHIP OPERATIONS

- Multi-ship operations conducted in the training area will have a limit of six assigned aircraft (four aircraft during AFTPs unless unit Battle Drill) in the confines of the training area.
- Separation of aided and unaided traffic in the training area will be maintained by use of the common advisory frequency.

- Multi-ship formation flight procedures will be IAW TC 1-204 and current TWXs or regulations and unit SOPs.
- The MALS are also used by the USMC and Navy. Caution should be exercised and full lighting should be used except at Blackstar.

H.14 - AIDED AND UNAIDED FARRP OPERATIONS

All night FARRP operations will be IAW unit SOPs.

H.15 - REPORTING PROCEDURES

- **Training Area -** A position report will be completed every thirty minutes during unaided and every fifteen minutes during aided flight to Guard Operations, Base Operations, or a buddy bird. If at any time contact cannot be maintained, use alternate methods; different frequencies, relay thru other aircraft, etc. In the event that contact cannot be made, cease NVG operations.
- **Local/Cross Country -** Maintain appropriate flight following and VFR position reports with ATC/FSS.

H.16 - CREW ENDURANCE PROCEDURES

- The crew endurance requirements in AR 95-3 will be followed.
- Crew members are responsible for maintaining their crew endurance requirements.
- Also, refer to Annex III to Chapter 5 of this SOP.

H.17 - AIRCRAFT LIGHTING CONFIGURATIONS

- Anti-collision lights and position lights, on steady bright, will be on at all times above 200 feet AHO. Below 200 feet AHO, while in the approved training area, at a minimum, position lights will be on steady dim.
- Lights-out operation will only be conducted below 200 feet AGL by formation flights. The tail aircraft will be the observer aircraft and will have position lights on steady bright and the anti-collision light on.

H.18 - ADDITIONAL CREW MEMBER REQUIREMENTS

The stated procedure in TC 1-210, Commander's Guide, Chapter 4, para 4-12, will be followed.

H.19 - VISUAL/RADIO NIGHT SIGNALS

- Emergency light signals for inoperative radio equipment or other emergencies that cannot be transmitted over the radio will be as per DOD FLIP Flight Information Handbook.For multi-aircraft operations emergency visual and light signals for tactical operations will be as follows:
    - For training, the affected aircraft will go to trail formation and flash position lights for one minute. Training will terminate.
    - On missions, affected aircraft will do the same as in training. The Air Mission Commander will brief the flight prior to the mission if this situation will terminate the mission.

APPENDIX I - TACTICAL FIELD OPERATIONS

I.1 - PURPOSE -

This Facility does not normally do tactical field operations. We will use unit integrity and SOPs wherever possible. In the event unit integrity and SOPs cannot be used, this SOP prescribes the organization and procedures to be followed in the preparation and execution of day tactical training.

I.2 - PERSONNEL -

Aviators assigned to a FAC 1 and FAC 2 position who perform combat, support, or combat service support missions. Specific crew duties are designed to ensure the team work necessary to safely and expeditiously execute a tactical flight (day or night). The sharing of duties in no way relieves the pilot of his/her overall responsibility for the actions and safety of his/her aircraft.

I.2.1 - PILOT DUTIES -

I.2.1.1 - Preflight -

- Plan mission together with co-pilot.
- Check NOE/Terrain Flight Hazards Map.
- Crew members accomplish oral call-out and confirmation of checklist items.
- Preflights may be split between crew members.
- The checklist will be used.
- Make sure windshield is clean and not distorted.

I.2.1.2 - Inflight -

- The pilot on the controls will fly the aircraft. He/she will maintain his/her attention and vision on the items outside of the aircraft that influences the mission (i.e. other aircraft, obstacles, terrain clearance, and hazards).
- Aid the pilot not flying in navigation and reconnaissance by providing a verbal commentary of the terrain features and man-made objects that he/she observes on the route that is being flown.
- Maintain course, altitude and airspeed prescribed by the mission.
- Make radio transmissions as necessary.

I.2.2 - CO-PILOT DUTIES -

I.2.2.1 - Preflight -

- Assist pilot in planning mission.
- Check NOE/TERRAIN Flight Hazards Map.
- Assist in pre-flighting aircraft.
- Read check list to pilot.

I.2.2.2 - Inflight -

- Navigate and verbally direct the flight pattern of the aircraft.
- Advise pilot of all known obstacles.
- Monitor engine and flight instruments and advise pilot as required.
- Record data as required by mission.
- Advise Ground Commander, if aboard, of any changes to original mission.
- Advise troops, when aboard aircraft, as to the direction of landing in LZ.
- Tune radio to desired frequencies.
- Responsible for authentication of radio transmissions and challenging of radio transmissions.
- Perform takeoff and landing checks.

I.3 - OPERATIONS -

I.3.1 - PLANNING -

1. Planning for a tactical operation will be initiated immediately upon receipt of a warning order by ODO during RAFTPs or Operations Officer during unit training and will continue until the operation is executed.
2. Initial requirements will be placed on individual crew in the early stages of training and on sections of platoons in advanced stages of training when warning order is received.
3. The Warning Order will consist of:
   - Type mission to be conducted.
   - Time operation will take place (approximate).
   - Time operation order will be issued.
   - Elements to participate.
4. When practical, all aviators and Pathfinder personnel will be briefed simultaneously. ODO will brief LZ personnel before departure to the landing zone used for night operations.

I.3.2 - AIR MOVEMENT FROM FACILITY TO TACTICAL TRAINING AREA -

1. The operation order will be adhered to whenever possible but can be changed if mission dictates.
2. Time will be prescribed in the operation order.
3. Single ship operations will depart Facility at ten minute intervals (engines will be started ten minutes prior to life-off time).
4. Communication check will be made on 65.05 FM with ODO, Operations Officer, or C&C Ship prior to taxiing for take-off.

I.3.3 - LANDING ZONES -

The landing zone is oriented for reference and location of enemy targets of fires. Through use of the clock system, the twelve o'clock position being the direction of the landing.

APPENDIX J - PARACHUTE OPERATIONS

J.1 - PURPOSE

To outline procedures, requirements, and responsibilities of aircraft crew members during parachuting operations. The purpose of this section is to establish the procedures to be used during the actual parachute drop situation.

J.2 - SCOPE

To ensure all crew members are familiar with procedures and requirements involved in parachute operations.

J.3 - PROCEDURES.

- The only parachute operations that will be performed by CANG aircraft will be administrative/non-tactical, and must be approved by the Adjutant General prior to drops.
- All jump operations will be made in DAY VFR CONDITIONS.
- Parachutes will not jump with any extra equipment.
- The jumpmaster will be a static jumpmaster and is required for all jump missions.
- A qualified crew chief should be on all jump missions.
- Aviators will not perform PC duties until they have performed pilot duties during paradrop missions and the task is on the CTL and have been evaluated on that task.
- Pilots, co-pilots, crew chiefs, and jumpmasters participating in parachute operations will be thoroughly briefed by an approved Briefing Officer.
- The maximum number of parachutists per aircraft will be six.
- The jumpmasters will furnish their own helmet or headset and use for each jump mission.
- All crew members will have full flight gear, to include training crew chief. Only one training crew chief per aircraft will be allowed on a jump.
- Extra personnel will not be carried on the aircraft.
- Jumps will not be conducted when the surface wind velocity on the drop zone exceeds ten knots including gusts. Maximum allowable winds aloft at jump altitudes will not exceed thirty knots. The pilot will make the determination to jump on winds aloft; however, the MACO, Safety Officer, and jumpmaster will be responsible for jump winds on the drop zone. The pilot will advise the jumpmaster if he/she feels the winds are in excess of ten knots on the ground.
- The jump altitude will not be less than 1,500 feet AGL.
- An airspeed will be maintained between fifty knots (minimum) and seventy knots (maximum). Seventy knots is preferable because of the extra delay in chute deployment at slower airspeeds.
- It is the responsibility of the supported Unit Commander of MACO to acquire all airspace clearance and FAA notification in accordance with FAR part 105. The pilot-in-command will ensure that the MACO has complied with the FAR.
- The pilot will ensure that the proper altitude, airspeed, and ground track are maintained throughout the jump sequence. The jumpmaster will ensure that the proper visual indicators are present at the DZ or radio communication is established prior to giving the “GO” command.
- The pilot must be aware of and expect rapid shifts of center of gravity during the exit of parachutists.

- The crew chief and jumpmaster will wear harness restraint equipment while conducting jump operations or be seated in a seat with seat belt fastened.
- Loose trail formations will be the only formation used for paradrop missions. The aircraft will be spaced one minute apart.
- It is the responsibility of the support Unit Commander to acquire all land agreements. If helicopters are to land on the drop zone or if the mashalling area is on private property the land agreements will be received by the State Aviation Officer prior to the mission being approved.
- Aircraft will not rapid refuel while participating in parachute operations.
- A medevac helicopter/ground ambulance will be in close proximity to the DZ prior to drop operations and will remain on station until all jumpers are accounted for.

J.4 - REQUIRED BRIEFINGS.

J.4.1 - CREW BRIEFING.

- The pilot-in-command will brief his/her crew prior to departing for a jump mission. He/she will ensure that he/she has harness restraint equipment, seat belts, and tape.
- The pilot-in-command will check to see if each crew member understands his/her responsibilities.
- The pilot-in-command of each aircraft will ensure the crew chief understands how he/she must prepare the aircraft for jumping.

J.4.2 - PRE-JUMP BRIEFING.

- The following officers and NCOs will attend a pre-jump airborne operational briefing to be conducted by the Airborne Commander proponent for the operation. The crew chief should finish preparing the helicopter at this time for jumping in accordance with paragraph three of this section.
    (1) MACO
    (2) Air Mission Commander
    (3) Jumpmasters
    (4) Aircraft Commanders

J.4.3 - MACO/PILOT SAFETY BRIEFING.

- The MACO will be responsible to ensure that this briefing is given to all jump personnel, jumpmasters, pilots, co-pilots, and crew chiefs who will participate, and that the pilot is furnished a copy of passenger manifest.
    (1) The MACO will cover items covered by this SOP but will include:
        (a) Total number of parachutists to be dropped.
        (b) When parachutists are to begin loading.
        (c) Drop zone information.
        (d) Drop zone marking and pathfinder control.
        (e) Air-ground communication to include frequency, call signs, and pyrotechnics.
    (2) The pilot-in-command of the mission will cover the items listed in the Operator's Manual, as pertains to parachute operations plus the following mentioned items:
        (a) ID Tags check
        (b) Equipment allowed on helicopter
        (c) Jumpers will wear chin straps attached to their helmet

(d) Entry and exit of aircraft. All personnel will enter and exit from the front (to include the ground personnel).
(e) Seating. The jumpmaster will place jump personnel where he/she wants them inside the aircraft. No one will move from that position.
(f) Movement inside the aircraft should be restricted. Crowded conditions could result in entanglement of static lines and premature activation of a parachute.
(g) Seatbelts. Only the jumpmaster will advise the parachutists when the seatbelts can be unfastened.
(h) Emergency exits, equipment, landing
(i) Towed Jumper. The pilot-in-command of the aircraft will make the decision to cut or land with a towed jumper. If the jumper is conscious he/she should place a hand on top of his/her helmet. Caution: The jumpers should be cautioned that if they become attached to the helicopter they should not pull their reserve. The pilot should maintain his/her altitude and stay over the DZ if at all possible.
(j) Medevac Hospital. The pilot-in-command will ensure that all personnel are aware of the hospital or airfield which will be used if there is an injury.
(k) Cancellation of Jump. If the jump is canceled for any reason the jumpmaster will ensure that the jumpers' safety belts are locked. The jumpers will remain in their position within the aircraft until it has landed and the jumpmaster has unhooked their static line and safety belt. Red smoke activated by ground personnel will be the visual signal that an emergency exists in the DZ or that the mission should be aborted and no drop of parachutist will be made.
(l) If a parachute prematurely opens within the aircraft all persons should try to grab the parachute to prevent its deployment beyond the door of the aircraft. The pilot should slow his/her airspeed and land at once. The reserve parachute handle should be guarded at all times by covering it with the left hand across the front without grasping it.

J.4.4 - PILOT/JUMPMASTER BRIEFING.

- The following officers and EM will attend the Pilot/Jumpmaster Briefing:
  (a) Pilot-in-command of aircraft
  (b) Jumpmaster who will participate in jump operations (for aircraft).
  (c) Co-pilot
  (d) Crew chief
- The following items will be covered by the pilot-in-command:
  (a) Special restrictions and requirements
  (b) In-flight procedures
  (c) The pilot-in-command will check the qualifications or the co-pilot, crew chief, and jumpmaster prior to a jump mission. The pilot will specifically check the jumpmaster and crew chief to see if they understand established procedures.

J.5 - PREPARING THE AIRCRAFT FOR JUMP.

- The supporting aviation unit will prepare the helicopter for jump operations. Preparations will normally be accomplished in advance by personnel from the Facility Maintenance Shop.
- Preparation will be in accordance with Chapter 6, Section III, TM 57-220, unless specified otherwise in this SOP.
- The ground handling wheel mounting brackets on both landing skids (UH-1H) will be padded and taped over.
- All external weapons mounts will be removed.
- Cargo door will be left closed and untaped while enroute to the marshalling area. Upon arrival at the marshalling area the two (UH-1H) small cargo doors will be removed from the helicopter and both main cargo doors will be locked in the open position and taped IAW TM 57-220.
- All rear seats will be removed from the helicopters except the two rear jump seats in the transmission wells.
- All loose items will be removed from the aircraft to include tie-downs, aircraft storage box, crew equipment, hats, etc. The pilot will ensure that he/she keeps IFR Supplement, approach plate, and enroute chart for medevac purposes.
- All firewell and transmission bulkhead sound absorbing blankets will be removed.
- Both gunner's foot mike switches will be removed. Wire and hole will be taped over.
- Prior to conducting jump operations the pilot and the jumpmaster will conduct a joint inspection of the aircraft to ensure that all preparation requirements of this SOP and TM 57-220 have been accomplished and aircraft is ready to conduct jump operations. All discrepancies noted will be corrected prior to jump or the helicopter will not be utilized. If discrepancies cannot be corrected, the helicopter will not be utilized.
- Pad and tape right and left edge of rear center bulkhead.

J.6 - INFLIGHT PROCEDURES.

- The PC will advise jumpmaster when to board each stick. The stick will initially stop in front of helicopter and wait for the jumpmaster's signal to board.
- The jumpmaster will place each individual jumper inside the helicopter, attached their snap hook to the anchor line cable, insert safety pin, and fasten their safety belts.
- The crew chief will assist the jumpmaster and will be responsible that all safety belts are fastened prior to takeoff.
- The jumpmaster and the crew chief will then fasten their safety harnesses to the floor tie down hooks, fasten their safety belts, and advise the PC.
- When the aircraft has reached an altitude of 1,000 feet AGL the pilot will advise the jumpmaster. The jumpmaster will then make his/her final preparations for the jump command.
- When the helicopter is at drop altitude the pilot will advise the jumpmaster that the jumpers can unfasten their seatbelts. Note: Once the jumpers' seatbelts are unfastened and an emergency occurs, the jumpmaster should have the jumpers jump if directed by the pilot. Should the jumpmaster lose communication with the pilot then the decision to jump rests with the jumpmaster.
- When the helicopter reaches the four minute checkpoint the pilot will notify the jumpmaster who will start his/her jump command sequence.
- The pilot will notify the jumpmaster when the helicopter reaches the ten second checkpoint.

- The jumpmaster will ensure that the proper visual indicators are present on the DZ or radio contact is established prior to giving the “GO” command.
- When all jumpers have cleared the aircraft the crew chief and jumpmaster will pull the three deployment bags in on their respective sides and secure them. Caution: At no time during flight will the static line snap hook be disconnected from the aircraft anchor line cable.
- If parachutes are equipped with automatic (barometric) opening devices and the jump is aborted, that automatic opening devices is disarmed immediately before descent is made.
- Static lines and deployment bags should be retrieved as soon as the static line from the last parachutist is clear and trailing aft at the door.
- When the crew chief and jumpmaster have secured their three deployment bags they will return to their position, fasten their safety belts and advise the pilot.
- The pilot will descend and land.
- The safety pin and snap hooks will not be disconnected until the helicopter has landed and the pilot instructs the crew chief and jumpmaster to unhook them.

***Caution**:*

The pilot will not allow the snap hook to be disconnected until he/she has landed, the collective is full down, N-2 is at 5,500 RPM (UH-1H), and the helicopter will not be moved any more.

- When the pilot advises the crew chief and jumpmaster that they can disconnect the snap hooks, they will gather their three static lines and deployment bags and give them to ground personnel assigned by the MACO to collect them from the aircrew. They will be placed in a kit bag by the ground personnel inside the helicopter. Caution: The two ground personnel will approach and depart the helicopter from the front each time. The exchange of the static lines and deployment bags will be accomplished within the helicopter.

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APPENDIX K - RAPPELLING OPERATIONS

K.1 - PURPOSE:

To provide aircrew members guidance and procedures to follow when conducting rappel operations.

K.2 - REFERENCES:

TC 21-24; FM 57-38; FM 1-400; FM 90-5; FM 31-71; FM 90-6; AR 360-61; TC 1-201; NGR 95-210; 3-40; TC 1-212

K.3 - SCOPE:

This Appendix covers all aviation units assigned to or under the operational control of the Facility. Professionalism and sound judgment will prevail in areas not covered by the SOP.

K.4 - GENERAL:

Unit aircraft will be operated in compliance with the current Operator's Manual, Army regulation, and National Guard Regulations.

K.5 - RESPONSIBILITIES:

The aviation unit providing the support will conduct Rappelling operations in conjunction with the TC 21-24 and the appropriate aircraft ATM.

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APPENDIX L - FORMATION FLYING

L.1 - GENERAL.

- A formation is a flight in which two or more aircraft operate as a single aircraft in regard to navigation and position reporting.
- Formation flights provide maximum combat power and maintain unit integrity. They also reduce aircraft exposure time, giving the enemy less time to react.
- The type of formation used will be determined by the METT-T. Normally, units conducting formation flight will be from the same unit and use their Unit SOP.

L.2 - TERMS.

For a definition of basic formations and terms see Chapter 7, TC 1-201, Jan 84.

L.3 - PLANNING CONSIDERATIONS.

- Mission requirements
- Enemy considerations
- Fire support plan
- Ordinance
- Terrain and weather
- Formation maneuver and flexibility
- Armed aerial escort
- Control of formation
- Type of aircraft and capabilities
- Crew experience
- Safety
- OPSEC measures

L.4 - SUPPORTED GROUND UNIT RESPONSIBILITIES.

- Provide the number of troops to be airlifted
- Desired arrival time at LZ
- Cargo information (size, weight, amount, etc.)
- Location and details of PZ and LZ
- Desired formations at PZ and LZ
- Specific landing points in LZ
- Ground commander’s location in formation
- Location of alternate LZ(s)
- Control (pathfinders) in PZ and LZ
- Fire and EW support
- Safe routes into and out of LZ (if known)
- Rules of engagement
- Disposition of friendly troops
- Frequencies and call signs of supported unit

L.5 - AIR MISSION FLIGHT COMMANDER RESPONSIBILITIES.

- Supported ground unit briefed on:
  - Formations normally used
  - Use of aircraft lights
  - Aircraft troop and cargo load capability
  - Safety requirements
  - Probably enroute formation
  - Downed aircraft procedures
  - Frequencies and call signs
- Supporting aviation briefed on:
  - Number of helicopters required
  - Aircraft cargo and troop load
  - Time schedule
  - Formations to be used
  - Location of Commander
  - Number of system of helicopters in formation
  - Method changing formations
  - Angular relationship of helicopters
  - Vertical and horizontal separation
  - Use of aircraft lights
  - Rendezvous and join-up procedures
  - Inadvertent IMC procedures
  - Signal requirements
  - Downed aircraft procedures
  - Status of armed support
  - Details of LZ
  - Route and LZ intelligence
  - Lost commo procedures
  - Rules of engagement
  - Refueling and rearming instructions
  - Emergency break-up procedures
  - Emergency medical facilities
  - Safety

L.6 - AVIATOR RESPONSIBILITIES.

- Comply with the instructions provided the Air Mission Commander (AMC).
- Advise the AMC anytime that it would become necessary to deviate from his/her instructions.
- Following instructions issued by the Flight Leader.
- Advise the AMC of any compromises to safety.

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APPENDIX M - HIRTA

- Refer to NGR 95-210, 3-26 for additional information.
- HIRTA locations are classified secret. The locations are kept in the safe and are available for detailed review by aviators.

M.1 - PURPOSE

To establish procedures which will allow for safe aerial flights in the vicinity of HIRTAs.

M.2 - RESPONSIBILITIES.

M.2.1 - COMMANDER.

Ensure all aviators are briefed on messages concerning HIRTA and their approximate locations.

M.2.2 - OPERATIONS OFFICER.

Will maintain a list of all known HIRTA locations. Brief pilots on HIRTA locations or provide information to other Briefing Officers prior to each flight as required.

M.2.3 - STANDARDIZATION INSTRUCTOR PILOT.

Ensure pilots are trained not to use HIRTAs as ACPs and that they maintain the proper stand off distances of 1,500 feet, vertically and horizontally or as required. Review VFR/IFR arrival and departure routes and instrument approach procedures for possible HIRTA locations. Advise Operations Officer of any new HIRTAs.

M.2.4 - SAFETY OFFICER.

Ensure pilots report any aircraft abnormalities caused by HIRTAs and AAARs are completed.

M.2.5 - PILOTS.

All pilots will review the HIRTA locations and their sand off distance prior to each flight to ensure that they will not pose a problem. Any new antenna that might be a possible HIRTA will be reported to the Unit SP. If any abnormalities are encountered during flight that might be attributable to HIRTAs the pilot will report the situation to the Unit Safety Officer and complete an AAAR.

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APPENDIX O - LASER AND DIRECTED ENERGY HAZARDS

1.1 - GENERAL

Laser rangefinders/designators used by both threat and friendly forces are sources of laser hazards within the combat environment. Laser emitters may be encountered almost anywhere on the battlefield, and they pose a serious threat to aircrews and acquisition/targeting sensors on the aircraft. Laser hazards can occur not only from a direct hit from a laser beam, but also from a reflected hit from a beam directed elsewhere. The laser light may be reflected from water, aircraft canopies or windshields, or other reflective surfaces. Injury can also result from reflection from unpolished objects such as a sand dune. The hazards to personnel and equipment from lasers depend largely on the radiation wavelength, the beam intensity, and the exposure time. The danger to personnel results from either direct or reflected exposure to radiation, which could ignite clothing or damage unprotected skin or eyes. Lasers can also adversely affect optical systems. Both direct-view (binoculars and weapon sights) and indirect (image conversion devices) optical systems can be damaged by the effects of far-, near-, and visible-infrared lasers.

1.2 - EFFECTS ON PERSONNEL

- If a visible light laser strikes an individual's eyes, the individual may experience flash blindness or other injury. The victim will feel nothing if the injury is minor. A common symptom is pain similar to that caused by a grain of dust in the eye. The victim may have difficulty seeing fine details and may experience disorientation or pain or see dots and streamers floating in his vision.
- Only the visible- and near-infrared light entering the eye will harm the retina. The eye is more vulnerable to damage at night since the iris is normally open wider than during the day. Laser effects on the eyes include flash blindness, minor and major retinal bums, and impaired night vision. The effect of flash blinding on vision is similar to the temporary effect of a flash bulb. The effects last from seconds to minutes and may leave colored spots in the eyes. Minor retinal burns can cause discomfort and interfere with vision and may not be immediately noticeable. Major retinal bums result in major damage to or loss of vision. The injuries involve bleeding inside the eye, immediate pain, and possible permanent loss of or impaired vision. Night vision acuity may be lost because of undetected damage. A laser attack that damaged the fovea, where most of the cones are located, might go unnoticed because rod cells are used for night vision. Foveal damage may affect vision sharpness and color interpretation. Normal cockpit tasks, obstacle avoidance, and the use of acquisition or targeting devices could become difficult or impossible.
- The use of magnifying optics in a laser environment can be extremely dangerous. The optics focus the beam to a much smaller area and concentrate the power of the beam. Binoculars, TSUs, TADS (direct-view optics), and handheld stabilized sights send more light into the eye. At tactical distances of 1 to 2 kilometers, exposure to lasers through unprotected optics (without filters) makes injury likely. However, the narrow field of view of optical systems and the small spot size reduce the likelihood that a laser beam will actually enter the system and damage the eye. Burns may result from reflected laser light focused on the retina of the eye.

1.3 - EFFECTS ON EQUIPMENT

1.3.1 - EFFECTS ON DIRECT-VIEW OPTICS

- Direct-view optics are hard to damage with visible- and near-infrared lasers. These optics are designed to pass as much light as possible. If a laser is powerful enough or close enough, it may pit reticles, destroy protective filters, and crack lenses.
- Nonfiltered Optics. The optical device may not have the right filter in place when lased. In this case, the viewer may suffer severe eye damage long before the optical sight is damaged.
- Ordinary Optics. Far-infrared lasers do not penetrate ordinary optics. The energy is deposited on or in the lenses and windows. A far-infrared laser that is powerful or close enough can craze, crack, or shatter outside lenses or windows. Crazing results in a frosted or sandblasted appearance. A crack with no impact scar (like the scar from a rock on a windshield) may indicate laser damage.

1.3.2 - EFFECTS ON INDIRECT-VIEW OPTICS

Image conversion devices, such as night vision devices and tracking systems on current weapon systems, are subject to damage from near-infrared and visible lasers. If the image converter is sensitive to light from the laser, the viewer will see a bright flash of light. Overloaded circuits may cause the system to lose power and then restart. If the damage to the tube is not severe, the display will reappear with dark spots or lines. If the tube is destroyed, the display will remain dark. The flash from the display may dazzle the operator briefly. However, the operator is completely protected from eye injury by such systems.

1.4 - PASSIVE COUNTERMEASURES

The most likely known laser threat is the Laser Rangefinder/Designator (LRF/D). Aircrews must be able to recognize the presence of LRF/D on the battlefield. Unfortunately, each device can come in many possible sizes and shapes. However, some reliable clues can help determine whether a device is a laser range finder/designator.

1.5 - LASER RANGEFINDERS/DESIGNATORS USED BY PERSONNEL

The size of an LRF/D can vary from the size of binoculars (handheld) to the size of an orange crate (mounted on a vehicle). Laser range finders/designators used by personnel are easily recognized.

1.6 - LASER RANGEFINDERS/DESIGNATORS USED ON VEHICLES

The LRF/D system mounted on a vehicle can be an integral part of the platform with very few, if any, discernible physical characteristics. This is true of an LRF/D mounted on a tank. The best way to determine whether an armored vehicle has an LRF/D is to know which vehicles are equipped with these devices and to be able to recognize them.

1.7 - LASERFLASH

A smokeless, red flash from a device is a clue that it is an LRF/D is using a ruby laser. However, some lasers use invisible infrared light. Therefore, lack of a visible flash from a device does not mean that it is not an LRF/D. If a crewmember detects a flash, he should not look at it without laser-filtering protection.

1.8 - EMPLOYMENT

Sometimes an LRF/D can be identified by the way it is being employed, especially if it is used with a missile system. The way the LRF/D is handled and other specific things that occur while it is being used can help identify it.

1.9 - PROTECTIVE MEASURES AND DEVICES

Whether laser use is deliberate (enemy) or accidental (friendly), the results will be the same. If a crewmember uses an optical sight (direct-view) or scans without a laser-filtering device and laser light enters his eyes, injury will probably occur. Protective measures and devices can prevent or reduce the severity of laser injuries on the battlefield. Night vision devices, such as the AN/PVS-5 and the AN/AVS-6, and thermal-imaging systems offer complete eye protection from low-energy lasers.

1.10 - LASER LIGHT

1.10.1 - IN-BAND

Laser light, which is in-band to direct-view (400 to 700 manometers) optical devices, will pass directly through the system unaffected by the optical glass. Therefore, eyeglasses or sunglasses will not prevent eye injury from in-band lasers. Aircrews must wear specially designed protective visors on their helmets to obtain laser protection.

1.10.2 - OUT-OF-BAND

Out-of-band laser light is absorbed by the first optical source in the optical train. Thus, aircrews wearing eyeglasses or sunglasses or looking through any optical device will be somewhat protected from eye injury. Some damage to a crewmember's cornea may occur unless he places an optical lens in front of his eye or uses a protective visor.

1.10.3 - MAGNIFYING OPTICS

Since direct-view magnifying devices increase the severity of eye injury from lasers, aircrews should use magnifying optical devices only when necessary for critical tasks such as threat identification. In a known or suspected laser environment, indirect-view-magnifying devices, such as the FLIR or the TADS operated in the day television mode, will protect the observer from eye injury.

1.11 - LASER FILTERS

Filters can stop laser light. A good laser filter will absorb or reflect more than 99 percent of the laser light for which it is designed. A laser filter must allow all other colors to pass through except those that it protects against. Therefore, a laser filter is useful only against those lasers for which it is designed. The filters may be built into the equipment or come as clip-on additions to the eyepiece.

1.12 - ELECTRO-OPTICAL WARNING SYSTEM

The AN/AVR-2 laser-warning receiver will warn aircrews against laser-equipped threat weapon systems. The AN/AVR-2 will identify the quadrant from which the threat laser range finder is lasing the aircraft.

1.13 - ACTIVE COUNTERMEASURES

Some tactical expedient protective measures will be effective against laser exposure. However, they may give aircrews a false sense of security in the wrong circumstances. They may also increase vulnerability to lethal weapon fire. Some expedients that reduce vulnerability and probability of injury are detection avoidance, observation techniques, and smoke (obscurants). Counterfires can cause defeat of laser threat both before and after detection.

1.14 - DETECTION AVOIDANCE

Detection avoidance measures follow the rule of "what can be seen can be hit." Detection avoidance techniques maximize the benefits of terrain features for available cover and concealment. The masking provided by terrain and vegetation can prevent detection by Threat laser devices. The cardinal rules for detection avoidance are given in TC 1-201.

1.15 - OBSERVATION TECHNIQUES

If aircrews detect the use of lasers, they should not observe the area unless all crewmembers use protective devices. These devices include laser protective visors or indirect-view observation devices.

1.16 - SMOKE (OBSCURANTS)

Smoke or thick, naturally occurring obscurants can block visible and near-infrared lasers. Some weather conditions can reduce the effectiveness of laser weapons or prevent their use altogether. Weather conditions, such as clouds, fog, rain, and snow, affect the electro-optical characteristics of the target. Vehicle- and artillery-deployed smoke can help absorb or block out laser energy. Even with an intense amount of smoke protection, some lasers are powerful enough to penetrate through the smoke and cause eye damage.

1.17 - COUNTERFIRES

- The sensitive and fragile sophisticated subsystems of laser weapons make them highly susceptible to damage from both hostile fires and movement. A "hard kill" from indirect fire is not necessarily required to defeat a laser weapon. Vibration from explosions may possibly cause an optical system to become misaligned and thus useless. Vibration associated with high speed crossing of rough terrain could damage the optical train and cause breakdown.
- Thus, diversionary tactics to keep Threat lasers moving from place to place on the battlefield may be effective. Artillery fire is an effective countermeasure to lasers. It creates a dust cloud around the laser vehicle and contaminates or shatters mirrors, limiting the effectiveness of the laser beam.
- Another weakness of a laser weapon is the fragile exit window or mirror for the laser. Breaking this window with small-arms fire, flechette or fragmentation artillery munitions, could render the laser ineffective. The window or mirror must be kept clean to transmit the laser beam outward. Any dirt or film attached to the window or mirror would absorb the energy instead of transmitting it.

1.18 - POSITIVE UNIT TRAINING.

1.18.1 - LEADERSHIP

Good leadership can prevent panic. Positive training before battle, setting an example during laser encounters, and knowing what to do are critical. Stress in eye-injured soldiers can best be treated by leader example. Fear of blindness will be a natural response. Increased knowledge of lasers will help build the soldiers' confidence and offset their fear about lasers. Commanders should include laser avoidance and reaction methods in unit SOPS.

1.18.2 - LASER MISINFORMATION

The most serious obstacle to training and operating effectively on the directed energy weapon battlefield is the false impression many people have about lasers. Science fiction and sensational press are prime sources of misleading information about lasers. Unit training efforts should focus on common misconceptions and replace them with truths about lasers.

1.18.3 - BASIC LASER RISKS

Aviation personnel must be made aware of basic laser risks. Aircrews and aviation support personnel must be informed about the risks associated with the operation of aircraft laser equipment. Aircrews should be cautioned about the type and extent of injuries that can occur in and around areas where laser range finders/designators are operated. They must also be informed about the dangers associated with the deliberate ranging of friendly aircraft, vehicles, and personnel. A laser beam focused near or on the aircrew's faces or optics or even on the side of a vehicle may allow laser energy to penetrate the unfiltered magnifying optics. Crew members not using filter protection devices may sustain serious eye injury.

1.18.4 - PROTECTIVE MEASURES

Aviation unit training must emphasize aircrew use of the aviator's helmet laser visor when aircrews perform missions in an anticipated or a known laser environment. To reduce the chances of laser injury, aviation support personnel must be trained to wear laser protective spectacles when performing aviation ground support functions.

1.18.5 - LASER HAZARD REACTIONS

- Aviation units SOPs must include the tactical reactions expected of unit personnel if laser hazards are encountered. Some guidelines to consider when developing a laser SOP are discussed below.
- If the laser spot is nearby but not on you, the laser may look like a single bright, pure-colored flash or a series of flashes.
- If you detect a laser beam while at the flight controls, close your eyes momentarily if it will not jeopardize the immediate safety of your aircraft and crew. Turn your head away or maneuver the aircraft to avoid viewing the laser directly. As soon as possible, use the protective visor or spectacles, submit the appropriate report, and continue the mission.
- If you detect a laser beam while not at the flight controls, momentarily close your eyes or look away from the laser. Use the protective visor or spectacles and take the flight controls if required. Assist the pilot in command as necessary in submitting the appropriate report and accomplishing the mission.
- If you experience a sudden blurring of vision or a feeling like sand in your eye, you may have been hit with an infrared laser. In extreme cases, sudden pain and loss of vision may

occur. (You will not be forewarned because humans cannot see infrared laser light.) Pain or the inability to see may require the immediate transfer of the flight controls. The injury may be so severe that medical aid is required before continuation of the mission.

1.19 - FIRSTAID

- Unit training should include first aid training for laser casualties. Aviation missions are frequently conducted in remote areas where medical assistance is not readily available. Therefore, crewmembers should be trained in the treatment of laser injuries. FM 8-50 discusses first aid for laser casualties in detail.
- Flash Blindness. Flash-blinded crewmembers will recover in a matter of seconds to minutes if no other injury is present.
- Minimal Retinal Burns. Some disorientation and loss of fine vision may result from minimal burns. A crewmember suffering from these injuries should not be assigned tasks that require fine visual acuity until his vision clears.
- Injury. If a crewmember is seriously injured, the crew may proceed to a medical treatment facility if the mission allows. If the crewmember can function (single eye injury and no shock or panic) and another crewmember can assume aircraft control, then the crew should continue the mission. Uninjured crewmembers should watch injured crewmembers for signs of shock.

APPENDIX P - EXTREME ENVIRONMENTAL CONSIDERATIONS

P.1 - COLD WEATHER OPERATIONS.

See applicable 3000 series asks in Appendix AE. Must have tasks on CTL to conduct these operations.

P.2 - HOT WEATHER OPERATIONS.

Refer to the Army Survival Manual FM 21-76.

P.3 - OTHER

See Appendix AE for additional information.

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APPENDIX Q - SPECIAL OPERATIONS AND UNIQUE MISSIONS

Q.1 - PURPOSE:

To provide guidance to aircrew members and support personnel supporting special operation and unique missions.

Q.2 - SCOPE.

This SOP is applicable to all personnel providing aviation support to special operation State missions.

Q.3 - DEFINITIONS.

Emergency Mission. A mission which requires rapid response to a life threatening situation. Examples are search and rescue.

Q.4 - MILITARY FIELD COMMANDER (MFC).

The officer in charge of an incident who exercises overall command and control of CNG field operations at the emergency location during State emergencies. The MFC will be under the direct command of the Headquarters CNG EOC.

Q.5 - MISSION COORDINATION COMMITTEE.

A committee consisting of a representative from EOC, CAAO Aviation Safety, Operations, and Maintenance Representatives, a Flight Surgeon, as appropriate, and a representative from outside agencies in the proposed operation.

Q.6 - NON-EMERGENCY MISSION. A MISSION WHICH IS NOT OF A LIFE SAVING NATURE.

This mission will allow review by the mission planning committee and appointment of a MFC.

Q.7 - SPECIAL STATE MISSIONS.

Missions outside of individual aviator training or readiness/unit/combined arms training in support of emergencies or law enforcement activities.

Q.8 - MISSION REQUESTS.

- Emergency mission requests will be originated by EOC.
- Emergency missions will be forwarded to appropriate units for action with information provided to CAAO at the earliest time.
- CAAO will notify NGB AVN of the details of the emergency and use of aircraft as soon as possible.
- Non-emergency missions will be reviewed by the Mission Coordination Committee prior to initiation of operations to ensure aviation assets are appropriately utilized.
- Mission Coordination Committee will consist of a representative from EOC, CAAO Aviation Safety, Operation and Maintenance representatives, and as appropriate, a Flight Surgeon, and a representative from outside agencies involved in the proposed operation.

- Memorandums of Understanding will be negotiated between the CNG and any or all non-military agencies involved in a non-emergency operation. The Facility will maintain on file a copy of the MOU.

Q.9 - MISSION BRIEFINGS.

- Emergency missions will be briefed by the unit chain-of-command if available.
- Aviation facilities/activities will provide mission briefings during normal duty hours and when the unit chain-of-command is unavailable.
- Non-emergency missions will be briefed by the Aviation Military Field or Flight Operations Officer.
- PCs will ensure they thoroughly understand their mission and safety considerations and that their crew and passengers are briefed on all aspects of the mission.
- RISK ASSESSMENT.
- A risk assessment form will be executed for all flights in support of missions within the scope of this SOP.
- Low risk missions will be approved by the Unit Commander or Operations Officer as appropriate.
- High risk missions will require approval by the Director of Army Aviation or Facility Commander as appropriate.

Q.10 - MAPS.

- Aircrews should be provided with the most current maps available. The smallest scale consistent with the operation will be used.
- As a minimum a sectional and/or a JOG-A for the operational area should be on board all mission aircraft.
- A hazards map will be established for all operations requiring multiple sorties. This map will be updated and available to aircrews for review prior to each flight.

Q.11 - SITE SURVEYS.

- Site surveys will be conducted for all off-airfield staging areas. Surveys will be conducted by the Military Field Commander or Aviation Operations Officer prior to commencement of operations.
- Traffic flow plans will be established and documented.
- PCs will review site surveys prior to commencing operations and comply with traffic flow patterns.

Q.12 - FLIGHT FOLLOWING.

- Emergency mission aircraft will flight follow with FSS Facility Operations, ATC or supported/supporting civil agency as appropriate.
- Position reports will be made as a minimum hourly or more often if MFC determines necessary.

Q.13 - SURVIVAL EQUIPMENT.

- Survival equipment requirements specified in regulations will be complied with. Equipment minimums may be supplemented but in no circumstances will they be reduced.
- The Facility will be notified of any ALSE needs.

Q.14 - REFUELING.

- All refueling operations will be IAW FM 10-68. Priority of fuel sources will be military, government contract, or credit card SF 44 purchase.

- Normal procedures will be “cold” refueling. “Hot” refueling will require CAAO approval.

Q.15 - PRE-ACCIDENT PLAN.

- MFC for non-emergency missions will develop pre-accident plans for their operations. Emergency missions will utilize the pre-accident plan for the Facility they are operating from. Mishap reporting procedures are found in CAL NGR 385-95.

Q.16 - MANNING.

- Priority for manning special missions will be M-day personnel on State Active Duty. Use of technicians/AGR personnel will be IAW NGR 37-111 and current OTAG policy. Individuals on TDY/ADSW will not be used for special missions without prior coordination with the appointing authority.

Q.17 - CREW REST.

- Crew rest guidance in AR 95-3 will not be exceeded. In certain instances the MFC may further restrict crews to ensure crews do not become fatigued.
- Crew members are responsible to ensure they are adequately rested for the mission and that they use crew rest time to maximum advantage.

Q.18 - INADVERTENT IMC RECOVERY PROCEDURES.

- Inadvertent IMC encounters will be considered an emergency situation.
- MFCs or PCs will identify recovery fixes if applicable and develop recovery plans. These plans will include;
    - Immediate actions to gain control of the aircraft and avoid terrain
    - Fly the aircraft
    - Climb to a safe altitude
    - Contact ATC and declare an emergency
    - Complete recovery procedures.

Q.19 - WEAPONS.

- Missions involving use of weapons by law enforcement agencies will require a MOU with that agency.
- MOU will specify weapons will not have rounds in their chambers and weapons, flares, or other pyrotechnics will not be discharged from the aircraft.
- A copy of the MOU will be on file with the supporting Facility.

Q.20 - WILD FIRE SUPPORT.

- Wild fire missions will have an MFC appointed.
- The MFC will be responsible for mission accomplishment, crew support, and aircraft maintenance and security.
- The MFC will function as liaison between supported agencies and National Guard for on scene concerns. Aviation issues which cannot be resolved at MFC level will be referred to CAAO for resolution.
- PCs for wild fire missions will have a minimum of 1,500 hours flight time as a PC in helicopters.

- Bambi bucket missions will have both aviators qualified IAW the State POI and certified by a bucket qualified IP/UT.
- Aircraft will be configured and operated IAW Water Bucket SOP.
- At least one pilot on each crew will have prior operational mission experience.
- Aviators must be certified by the California Department of Forestry and must have a valid CDF Pilot Approved Record on hand when reporting for wild fire support missions.
- All occupants of an aircraft involved in bucket operations will wear water wings.

Q.21 - DRUG INTERDICTION.

- Drug interdiction missions will be staffed by the Mission Coordination Committee before operations are commenced. The committee will ensure all requirements of this SOP are met and an MOU is drawn up between the National Guard and supported agency.
- Drug interdiction missions will be limited to surveillance and transport of personnel.
- Aircraft will not be used in offensive operations under any circumstances. Aircraft encountering hostile fire or a situation in which hostile fire may be encountered will withdraw to avoid endangering aircraft and crew.
- Aircraft used in drug interdiction missions will have armor seats installed.
- Flak vests/bullet proof vests will be worn by crew members when actively engaged in the mission.
- Aircraft on drug interdiction missions will be parked at an airport where security can be provided when not involved with mission support. If the airport does not have its own security, the supported agency will coordinate adequate security to prevent sabotage or vandalism.
- Maintenance personnel and aircrew members will be alert to the possibilities of sabotage during all aircrew members and inspections.
- Suspects, seized property, and contraband will not be transported in National Guard aircraft.

Q.22 - SEARCH AND RESCUE.

- Search and rescue missions due to their nature will normally involve one aircraft and crew and be launched as soon as possible after notification. A search and rescue mission may be assigned to any unit.
- Proximity to the search and rescue operation will be considered when selecting the unit to conduct the mission.
- Transportation of civilian personnel will be restricted to those individuals engaged in the search and rescue.
- Deceased personnel will be transported only if movement by other means will create a hazard or hardship to personnel on the ground. Deceased will only be transported to the nearest point at which ground transportation is available.
- See State OPLAN SAR for further guidance.

Q.23 - REPORTS.

- The MFC or senior ranking aviator present is responsible for submitting daily operational reports to the OTAG EOC.
- The reports should include as a minimum;
- Number of hours and sorties flown by each aircraft
- Number of missions accomplished
- Other information may be required depending upon the type of mission being performed such as;

- number of gallons of water dropped for wildfire support missions
- The MFC or senior aviator present is also responsible for submitting an after-action report (AAR) to the EOC within ten days after completion of the mission.
- The MFC EOC within ten days after completion of the mission.
- The MFC should include copies of all fuel slips from the mission and an Aviation Mission Data Card (CAL NGR Form 95-2) for each aircraft when submitting the AAR.
- The SAR mission number will be written on all fuel slips before turning them into the Facility.

Q.24 - REFERENCES.

AR 95-1, AR 95-3, NGR 95-1, NGR 95-3, CAL ARNGR 95-1, CA ARNG 95-3, FARs, CA ARNG EOC

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APPENDIX R - COMSEC

1.1 - PURPOSE –

This appnedix standardizes operating procedures and practices for AASF #1, in the area of COMSEC, ASE and the safeguarding of Controlled Crypto Graphic items and counter measures sets installed in aircraft at this facility.

1.2 - SCOPE –

To define general and specific responsibilities, policies, and procedures required to properly safeguard and account for CCI and ASE.

1.3 - REFERENCES –

TB 380-41, TB 380-40-22, TM 11-5865-200-12, TM 9-1095-206-13 & P , TM 11-5841-294-12, TM 11-5865-201-12 and Physical Security Update.

1.4 - DEFINITIONS –

Sub-Hand Receipt Holder / User - An individual pilot within the unit who is the actual or potential user of ASE or COMSEC material of that unit.

Controlled Cryptographic Items (CCI) - COMSEC equipment and components which are unclassified when UNKEYED, but must be controlled against espionage, tampering, and loss. UNKEYED CCI will be controlled and physically protected.

CCI controlled cryptographic item KEYED - In a KEYED condition CCI require different levels of physical protection. KEYED CCI will be protected to the level of the security classification of key used, i.e., TOP SECRET, SECRET, or CONFIDENTIAL.

Aircraft Survivability Equipment (ASE) - Equipment designed to make the aircraft more survivable in a hostile environment by the use of countermeasures. Countermeasures sets ALQ-144, M-130 and APR-39A (v) 1 will be protected to the level of appropriate security classification.

1.5 - RESPONSIBILITIES –

1.5.1 - COMMANDER –

The Commander is responsible for safeguarding and controlling ASE, COMSEC equipment and material held within his command. He will insure all pilots have been briefed on procedures for safeguarding and using ASE and CCI equipment.

1.5.2 - MAINTENANCE OFFICER –

The Maintenance Officer is responsible for safeguarding and controlling ASE and CCI equipment within the Facility and will insure that all Aircraft Mechanic Supervisors notify the Electronics Supervisor in advance of aircraft being transferred or leaving the facility for maintenance, MWOs, etc., to remove ASE and CCI equipment installed in aircraft.

1.5.3 - AIRCRAFT MECHANIC SUPERVISOR –

The Aircraft Mechanic Supervisor is responsible for safeguarding ASE and CCI equipment installed in assigned aircraft. He will notify the Electronics Supervisor in advance of aircraft being transferred or leaving the facility for maintenance, MWOs, etc., to remove ASE and CCI equipment. A local job order will be used.

1.5.4 - AIRCRAFT MECHANIC –
Aircraft mechanics are responsible for safeguarding and inventory of ASE and CCI equipment installed in assigned aircraft. A visual inspection of ASE and CCI equipment will be performed during aircraft inspections.

1.5.5 - ELECTRONICS SUPERVISOR –
The Electronics Supervisor is responsible for all ASE equipment removed for repair at CA AVCRAD. This equipment will be stored in the Avionics Shop IAW applicable directives. He will provide for and supervise the training of avionics personnel. He will insure a semiannual inventory is conducted by physical sighting and serial number verification.

1.5.6 - ELECTRONICS MECHANIC –
Electronics mechanics are responsible for safeguarding ASE and CCI equipment. They will insure ASE and CCI equipment is installed and tested IAW the appropriate manuals and that inoperative items are removed for repair.

1.5.7 - PILOT IN COMMAND –
The PC is responsible for safeguarding, accounting, and control of ASE and CCI equipment installed in aircraft. UNKEYED CCI equipment and components which are UNCLASSIFIED when UNKEYED, but must be controlled against espionage, tampering, and loss. The PC will ensure that COMSEC items are UNKEYED when aircraft are returned to AASF #1 after each flight or when aircraft is grounded in an unsecure landing area due to maintenance problems or mission requirement.

1.6 - MATERIAL AND EQUIPMENT –

KIT-1C and KY-58 will be mounted in an operational configuration in aircraft. Equipment will be unkeyed and zeroed when not in use.

COMSEC keying lists and material will be issued by the unit of assignment to the PIC. Keying material will be returned to unit COMSEC custodian.

ASE will be installed in an operational configuration in the aircraft when available and will be operated IAW the appropriate manuals and directives.

1.7 - EMERGENCY PROCEDURES FOR ASE AND CCI EQUIPMENT –

1.7.1 - SITUATION –
ASE and COMSEC equipment is always subject to an emergency from fires, storms, floods; compromise or seizure by an aggressor nation or subversive element, or civil disturbance which may necessitate the evacuation, storage, and/or destruction.

1.7.2 - MISSION –
All personnel will take necessary actions in times of emergency to avoid compromises and/or insecurities which are more susceptible to occur during such times.

1.7.3 - IMPLEMENTATION –
This plan will be implemented on authorization by the Facility Commander, Maintenance Officer, or senior member of the facility that is present when it is evident that equipment will be endangered by some type of disaster.

1.7.4 - EVACUATION SITES –
The decision to evacuate equipment will be made by the senior officer in present (Facility Commander, Operations Officer, Maintenance Officer etc.) at the time it is determined that evacuation is necessary.

APPENDIX T - ENERGY CONSERVATION PROGRAM

T.1 - PURPOSE -

This plan establishes the energy conservation program for this Facility and outlines current Facility policies, guidance, and responsibilities for the implementation of energy conservation actions to be taken by all personnel at the Facility.

T.2 - OBJECTIVE –

The Energy Conservation Program's objective is to ensure maximum conservation of energy while maintaining a desired readiness posture.

T.3 - GENERAL -

Known shortages in the past, present, and predicted shortages in the future necessitate a capability to manage energy use.

T.4 - RESPONSIBILITIES -

The Maintenance Officer is appointed the Energy Conservation Program Director for this Facility. He/she is directly responsible to the Facility Commander.

T.4.1 - FACILITY ACTION.

1. Ensure efficient usage of energy and minimize waste. Turn off all lights, heaters, and compressors at the end of each work day or when not in use.
2. Thermostat setting during working hours comfort/heating/cooling will be as follows:
   Administrative, training, and locker rooms - Heating (68 degrees); Cooling (80 degrees)
   Hangar/Allied Shops and Supply - Heating (68 degrees); Cooling (N/A)
3. Turn heating thermostats down during night hours to ensure curtailment without freezing.
4. Report all electrical, heating, venting and air conditioning deficiencies to DPW.

T.5 - CHANGES -

Changes and additions to this conservation program will be published as required.

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APPENDIX U - NOISE ABATEMENT PROGRAM

U.1 - PUBLIC REACTION TO ARNG HELICOPTER FLIGHTS -

The times of our heaviest operations are on weekends and in the late afternoon and at night. It is mandatory that all aviators be aware of the noise problem, and knowledgeable in the practices and techniques used to minimize this noise intrusion when it is necessary to fly over noise sensitive areas.

U.2 - FLIGHT TECHNIQUES USED TO DECREASE NOISE DURING FLIGHT -

1. Fly at the highest practical altitude during an approach to a metropolitan area.
2. Select route into airfield/landing site over least populated area.
3. On VFR flights over metropolitan areas, follow major thoroughfares or railway roadbeds.
    a. When using such thoroughfares (e.g. Interstate 405 or 605) stay on right side where possible.
    b. Use flight following where available.
4. Select the final approach route with regard to the type of neighborhood surrounding the terminal.
5. If the terminal is surrounded by noise sensitive areas, steep approaches should be used.
6. Avoid low flying near hospitals, nursing homes, schools, residential areas, and other highly noise sensitive facilities and areas.

U.3 - OTHER CONSIDERATIONS -

1. Do not circle over residential or agricultural property where livestock or people are located.
2. Attempt to stay downwind of noise sensitive areas.
3. Temperature has two effects on sound:
    a) Warm air is more turbulent and sound loses intensity (although sound travels faster in warm air).
    b) In air without an inversion of temperature, the lower part of a sound wave tends to outrun the upper part, making the propagation, in effect, curve upward - and away from the populace. Therefore, flight in late morning or early afternoon and more so during summer months than on winter days is most desirable. Scheduling flights to and from noise sensitive areas during the warmest part of the day attenuates the noise problem.
4. Wind has two effects on sound:
    a) Sound is carried downwind.
    b) The background noise of high winds mask the sound of a helicopter.
    c) Fly downwind of densely populated or noise sensitive areas.
5. The combination of no wind and an overcast on a cold morning is the most unfavorable and makes your use of the noise abatement approach over a noise sensitive area a desirable option.
6. Ground environment affects the offensiveness of the blade slapping sound. The background noise level or sound environment of residential areas reaches its lower point between late evening and early morning. In warm weather, people are apt to be relaxing out of doors in the evening and on weekends. Noise intrusion is probably the most apt to be resented at those times.

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APPENDIX V - EQUAL EMPLOYMENT OPPORTUNITY

V.1 - PURPOSE -

To assure that minority group personnel receive equal consideration with others in all aspects of training, opportunities for advancement, recognition, and development.

V.2 - RESPONSIBILITIES -

V.2.1 - SUPERVISORS.

1. Provide active and effective support to the EEO Program.
2. Ensure employees observe its provisions and are informed on discrimination complaint procedures.
3. Review vacant and newly proposed positions for possible structuring in consonance with governing directives, to provide opportunities for minority group personnel.
4. Keep employees informed as to promotional opportunities and counsel them as to qualifications, assuring that minority group personnel receive equal consideration.

V.2.2 - EQUAL EMPLOYMENT OPPORTUNITY OFFICER.

1. Give priority consideration to matters under his jurisdiction as EEOO.
2. Keep currently informed on general status of civil rights matters within the locality.
3. Conduct investigations and reports on alleged complaints of discrimination.
4. Support the Shop Superintendent's EEO Program through coordination, publication, and dissemination of the plan of action.

V.3 - ACTION PROJECTS -

1. Conduct training for incoming supervisors in EEO policy.
2. Review placement and promotion action to assure selection based on merit and equal opportunity.
3. Analyze employee discipline practices to assure non-minority group members are not being excused for infractions for which minorities are disciplined.
4. Review and analyze the equal employment opportunity program to assure it is effective, flexible, and meets all current needs, and modify the program as changing conditions dictate.

V.4 - OTHER -

IN ADDITION TO THE SPECIFIC PLANNED ACTIONS ABOVE, THE REGULATORY AND POLICY REQUIREMENTS PERTAINING TO EQUAL EMPLOYMENT OPPORTUNITY WILL BE FULLY IMPLEMENTED.

V.5 - DISCRIMINATION COMPLAINT PROCEDURES -

1. Complaints may be submitted either orally or written to the Equal Employment Opportunity Officer without individual being subject to any type of disciplinary action for placing a grievance.
2. Any grievance that cannot be corrected by the Equal Employment Opportunity Officer will be delivered to the Facility Commander for corrective action.

3. A current list of who is the Equal Employment Opportunity Officer and the Counselors will be posted on the bulletin board.

V.6 - EEO PROGRAM -

This activity will be committed to assure that equal opportunity exists in all aspects of its operations affecting employees and applicants for employment. In addition, the following guidelines will be effected:

1. No violations of the EEO Program will be tolerated.
2. The State Affirmative Actions Plan will be enforced.
3. An EEO Counselor will be appointed and made available to Shop personnel.

APPENDIX W - FRATRICIDE PREVENTION TRAINING

All crew members will complete fratricide prevention training according to their unit's ATP and SOP. Completion of the training will be annotated in the individual's Individual Aircrew Training Folder.

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APPENDIX Y - FLIGHT CREW QUALIFICATION AND SELECTION

Y.1 - PURPOSE -

To establish the Facility Commander's flight crew qualification and selection program IAW AR 95-1, paragraph 4-5, and NGR 95-1, paragraph 4-5.

Y.2 - SCOPE -

This Appendix applies to all full-time support personnel performing flight crew duties at the Facility and all personnel assigned or attached to the Facility for flight crew duties. Personnel in units will follow the Battalion or Brigade ATP. This Facility will use the Battalion or Brigade ATP in training and/or evaluations.

Y.3 - RESPONSIBILITIES -

Y.3.1 - COMMANDER -

Establishes, in writing, a formal flight crew qualification and selection program. This program will contain qualification and selection criteria and evaluation requirements for all flight crew positions within the Facility.

Y.3.2 - SAFETY OFFICER -

1. Monitors the flight crew qualification and selection program to ensure compliance with the Commander's written guidance.
2. Assists in the selection of flight crews for mission/flights.

Y.3.3 - APPROVAL AUTHORITY -

1. Acts as Mission Briefing Officer for flights under the control of the Facility, and when requested by the Unit Commander, for flights under the control of a supported unit.
2. Makes flight crew assignments based on the guidance of the Facility Commander, this SOP, and when appropriate, the supported Unit Commander.

Y.3.4 - STANDARDIZATION INSTRUCTOR PILOT (SP) -

1. Provides technical supervision of the Facility flight crew qualification and selection program as specified by the Facility Commander.
2. Assists in the selection of flight crew members for flights/missions.
3. Performs Instructor Pilot (IP) duties as necessary.
4. Trains and evaluates IPs and other SPs.

Y.3.5 - INSTRUCTOR PILOT (IP) -

Trains and evaluates aviators and other personnel in accordance with the Aircrew Training Manual (ATM) and the flight crew qualification and selection program.

Y.3.6 - FLIGHT CREW MEMBERS

Comply with the flight crew qualification and selection program.

Y.4 - QUALIFICATION REQUIREMENTS -

Y.4.1 - PILOT-IN-COMMAND (PC) -

1. Meet the requirements of AR 95-1, paragraph 2-1 and 4-6 and NGR 95-1, paragraph 2-1.
2. Meet the following prerequisites unless specifically waived by the Facility Commander.
3. Have logged a minimum of five hundred hours of military flight time.
4. Have completed a minimum of twelve months of aviation service in the CARNG.
5. Be selected by the Facility or Unit Commander for PC evaluation.
6. Have completed an initial PC evaluation flight with an IP/SP in the appropriate aircraft.
7. Be authorized to perform duties from either flight crew station and will be evaluated initially and annually in each. However, when the second pilot of the flight crew is not a qualified pilot in that aircraft, then the PC will fly from the pilot's station. It is recommended that all pilots gain experience in both flight crew stations in all Facility aircraft in which they are qualified.

Y.4.2 - NIGHT VISION GOGGLE (NVG) PC -

1. Meet the prerequisites of paragraph Y-4A above.
2. Meet appropriate ATM requirements.
3. Maintain NVG currency in accordance with the appropriate ATM.
4. Be selected by the Facility or Unit Commander for an NVG PC evaluation.
5. Have completed an initial NVG PC evaluation flight with an NVG IP/SP in the applicable aircraft.

Y.4.3 - PILOT (PI) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-8, and NGR 95-1, paragraph 2-1.
2. Be authorized to perform duties from either flight crew station and will be evaluated initially and annually in each.

Y.4.4 - NIGHT VISION GOGGLE (NVG) PI -

1. Meet the requirements of paragraphs Y-4C above.
2. Meet the appropriate ATM requirements.
3. Maintain NVG currency IAW the appropriate ATM.
4. Have completed an initial NVG PI evaluation flight with an NVG
5. IP/SP in the applicable aircraft.

Y.4.5 - CO-PILOT (CP) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-9, and NGR 95-1, paragraphs 2-1 and 4-9.
2. Fly from the designated aviator station as directed by the PC.
3. Aviators may log co-pilot flight time in a non-flight crew station when performing co-pilot duties and undergoing training or evaluations conducted by an IP, SP, UT, IE, or ME.

Y.4.6 - NIGHT VISION GOGGLE (NVG) CP WILL:

(1) Meet the requirement of paragraph Y-4E above.
(2) Meet the appropriate ATM requirements.
(3) Maintain NVG currency IAW the appropriate ATM.
(4) Have completed as a minimum an initial NVG PI flight with an NVG IP/SP in the applicable aircraft.

Y.4.7 - UNIT TRAINER (UT) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-10, NGR 95-1, paragraph 2-1, and paragraph Y-4A of Appendix.
2. Complete appropriate training outlined in TC 1-210 and the applicable ATM.
3. Complete a flight evaluation given by an IP/SP or IE, if appropriate, to include specific tasks for which the UT designation is required.
4. Be designated in writing by the Facility or Unit Commander. That designation will include the training authorized to be performed and the flight crew station(s) authorized to be used.

Y.4.8 - NVG UT -

1. Meet the requirements of paragraph Y-4A and Y-4B of this Appendix.
2. Complete an NVG UT flight evaluation given by an NVG IP/SP in accordance with the appropriate ATM.
3. Demonstrate a comprehensive knowledge of the local NVG training area.
4. Meet appropriate ATM requirements.

Y.4.9 - INSTRUCTOR PILOT (IP) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-11, NGR 95-1, paragraphs 2-1 and 4-11, and paragraph Y-4A of this Appendix.
2. Complete a flight evaluation in accordance with the ATM given by the Facility NVG SP.
3. Demonstrate a comprehensive knowledge of the local NVG training areas.
4. Be authorized to perform instructor pilot duties from either flight crew station and will be evaluated initially and annually in each. When a PC and PI are being evaluated or given instruction, the IP may perform duties from a non-flight crew station.
5. Be recommended by the Facility or Unit Commander and designated by the State Standardization Committee.

Y.4.10 - NVG IP -

1. Meet the requirements of paragraph Y-4B and Y-4I of this Appendix.
2. Complete a flight evaluation in accordance with the ATM given by the Facility NVG SP.
3. Demonstrate a comprehensive knowledge of the local NVG training areas.
4. Be recommended by the Facility or Unit Commander and designated by the State Standardization Committee.

Y.4.11 - STANDARDIZATION INSTRUCTOR PILOT (SP) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-13, NGR 95-1, paragraph 2-1, and paragraphs Y-4I of this Appendix.
2. Complete a flight evaluation in accordance with the ATM given by the Facility SOP.
3. Be recommended by the Facility or Unit Commander and designated by the State Standardization Committee.
4. Be authorized to perform duties from either flight crew station and will be evaluated initially and annually in each. When a PC and PI are being evaluated or given training, the SP is authorized to perform duties from a non-flight crew station.

Y.4.12 - NVG SP -

1. Meet the requirements of paragraphs Y-4K of this Appendix.
2. Complete a flight evaluation given by a Facility NVG SP in accordance with the ATM.

3. Be designated in writing by the Facility Commander and certified by the State Standardization Committee.

Y.4.13 - INSTRUMENT FLIGHT INSTRUCTOR (IE) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-12, and NGR 95-1, paragraphs 2-1 4-12.
2. Complete a flight evaluation given by a Facility IE in accordance with the ATM. The initial evaluation must be given in the aircraft subsequent evaluations may be given in the SFTS at the discretion of the Facility Commander.
3. Be recommended by the Facility or Unit Commander and designated by the State Standardization Committee.
4. Be authorized to perform duties from either flight crew station and will be evaluated initially and annually in each. When a PC and PI are being evaluated or given training, the IE is authorized to perform duties from a non-flight crew station.

Y.4.14 - MAINTENANCE TEST PILOT (MP) -

1. Meet the requirements of AR 95-1, paragraph 2-1 and 4-14, NGR 95-1 paragraphs 2-1 and 4-14, and FM 1-544.
2. Committee designated maintenance test flight evaluator (ME) in accordance Complete an MP evaluation conducted by a State Standardization with the appropriate ATM or FM 1-544.
3. Be designated in writing by the Facility/Unit Commander.

Y.4.15 - MAINTENANCE TEST PILOT EVALUATOR (ME) -

1. Meet the requirements of AR 95-1, paragraphs 2-1 and 4-15, NGR 95-1, paragraph 2-1, paragraph Y-4A and Y-4N of this Appendix, and FM 1-544.
2. Complete an ME flight evaluation given by a State Standardization designated ME and comply with FM 1-544.
3. Be recommended by the Facility or Unit Commander and designated by the State Standardization Committee.
4. Be authorized to perform duties from either flight crew station and will be evaluated initially and annually in each. When a PC and PI are being evaluated or given training, the ME is authorized to perform duties from a non-flight crew station.
5. See Maintenance Test Pilot Standardization Program for additional information.

Y.5 - SELECTION CRITERIA -

1. Crew selection will be made by the approval authority in accordance with NGR 95-1, paragraph 5-2a with assistance from the Facility Safety Officer and SPs. A list of assigned flight crews and the duties they are authorized to perform will be available to all approval authorities.
2. Flight crew selection will be made based upon individual crew member proficiency, mission complexity, crew capability, special flight crew qualification, and any other factors appropriate to the particular mission.
3. Crew selection will be designated in the mission briefing, specifying the duties and flight crew stations for each crew member.
4. When an IP is part of the crew he/she will be the PC if qualified.

Y.6 - EVALUATION REQUIREMENTS -

1. Aviators will be evaluated during Readiness Level (RL) progression, annually thereafter during Annual Proficiency and Readiness Tests (APART) in their primary aircraft, and during the training year in alternate and additional aircraft. Aviators need not perform all tasks from each crew station provided all required Aircrew Training Program (ATP) tasks are evaluated at some time during the process. When an IP, SP, IE, UT, or ME is evaluated from a flight crew station other than in accordance with the above procedure, (e.g. when an IE is evaluated on his/her instrument flight while he/she is performing IE duties from the co-pilot's station) the opposite flight crew station will be used for at least one of the flight evaluations that individual is required to perform during that training year.
2. Aviators will not normally have any Facility designated special mission tasks for Facility designated aircraft other than those required by the appropriate ATM.
3. Every attempt should be made to perform the unusual attitude recovery and engine failure tasks on the Standardization Flight Evaluation in case the Instrument Flight Evaluation must be performed under Instrument Meteorological Conditions (IMC).

Y.7 - NON-RATED RUN-UP OF UH-60 AUXILIARY POWER UNIT (APU) -

Y.7.1 - REFERENCES -

AR 95-1
NGR 95-1
NGR 95-210

Y.7.2 - PROCEDURES -

1. Non-rated personnel authorized to run-up UH-60 APUs will meet the requirements of the above references.
2. Qualification and annual evaluations will be IAW NGR 95-210. Semi-annual evaluations will be IAW NGR 95-210.
3. Currency requirements are every ninety days.

Y.8 - MAINTENANCE TEST PILOT STANDARDIZATION PROGRAM -

Y.8.1 - PURPOSE -

To establish policy and procedures for administering the Maintenance Test Pilot (MTP) Standardization Program.

Y.8.2 - REFERENCES -

AR 95-1
NGR 95-1
NGR 95-210
TC 1-210
Appropriate ATMs
FM 1-511
FM 1-544
TM 1-1500-328-23

Y.8.3 - RESPONSIBILITIES -

Y.8.3.1 - Facility

The Facility has overall responsibility for administering the MTF standardization program. It will:

1. Ensure MEs are integrated into the standardization program.
2. Provide the expertise to research and evaluate MTF programs on all matters pertaining to MTF procedures.
3. Coordinate the administration of initial and annual MTF evaluations
4. IAW TC 1-210, FM 1-544, the applicable ATM and MTF manual, and TM 1-1500-328-23.
5. Coordinate and conduct no-notice evaluations.

Y.8.3.2 - Me -

1. Administer training and evaluation IAW TC 1-210, the appropriate ATM, Fm 1-544 and TM 1-1500-328-23.
2. Complete gradeslips IAW TC 1-210.
3. Conduct no-notice evaluations.

Y.8.3.3 - Commanders -

1. Request MP/ME training through the Facility when necessary.
2. Publish orders for MPs and request ME orders through the Facility
3. when appropriate.

Y.8.3.4 - Individual Me/Mp -

Individual ME/MPs must complete an annual ME/MP flight evaluation during the APART period. Additional/alternate ME/MP evaluations will be completed IAW current regulations. Failure to complete the evaluation during the APART requires action IAW AR 95-3 and NGR 95-3.

Y.8.4 - EVALUATION PROCEDURES.

1. ME/MP orders will not be requested until the individual has progressed to RL1 status. The following sequence of events is recommended to satisfy these requirements.
    a. Integration into unit ATP, Commander's evaluation and normal pilot progression to RL2 status under supervision of an IP.
    b. The gradeslip documenting RL2 status should include comments recommending the aviator to be released for ME/MP training/evaluation under supervision of an ME and be advanced to RL1 status after completing an ME/MP evaluation.
    c. ME/MP mission training/evaluation under supervision of an ME.
2. The gradeslip documenting RL1 status should include comments recommending the aviator be appointed an ME/MP, and be appointed PC to perform ME/MP duties.

NOTE: ME/MP performing PC duties during other missions must meet PC qualification/selection criteria for those missions.

3. Initial ME evaluation will be coordinated by the Facility with DOES, Ft. Eustis, VA (DSN 927-3266).
4. Subsequent aircraft ME/MP training will be coordinated with DOES, Ft. Eustis, VA (DSN 927-3266).
5. After successful completion of an MP evaluation the aviators' unit will publish orders appointing the aviator to MP status. After successful completion of an ME evaluation, orders will be requested from the State Standardization Committee appointing the aviator to ME status.

Y.8.5 - POLICIES -

1. An MP must be current in the mission, design, and series of aircraft to be test flown IAW AR 95-1. A separate evaluation is required for each additional aircraft in which MP duties will be performed.
2. MEs will be supervise training of MPs or potential MPs as required by AR 95-1, TC 1-210, the appropriate ATM and FM 1-544.
3. No-notice evaluations should be administered to all MPs at least once annually. No-notice evaluations may be conducted in aircraft requiring MTFs since the ME will be able to observe the performance of actual troubleshooting and test flight procedures. No-notice evaluation tasks are selected by the ME and need not include all general test flight maneuvers.

Y.9 - NON-RATED AIRCREW MEMBER TRAINING PROGRAM -

Y.9.1 - PURPOSE -

To provide general guidance for the implementation of the crew member training program for non-rated crew members in aviation units and for technician employees of the CA ARNG.

Y.9.2 - NON-RATED CREW MEMBER PREREQUISITES -

The non-rated crew member (NCM) must be MOS qualified to be placed on flight crew member or non-crew member flying status, and be medically qualified in accordance with AR 40-501 for the appropriate duty. Flight status is awarded in accordance with (AR, NGR regulation 600-106). The only exception is a technician crew member who must perform duties specified by his/her position description who has been certified to be properly trained by his/her technician supervisor and has received the necessary academic and flight raining in accordance with the aircrew training manual "Commanders Guide," the appropriate aircrew member training, manual, and the Commanders task List and appropriate SOPs.

Y.9.3 - NON-RATED CREW MEMBER INITIAL QUALIFICATION -

Rated and non-rated crew member qualification requirements are stated in AR/NGR 95-1, TC 1-210 and NGR 95-210.

Training for non-rated crewmember and non-rated non-crew members will essentially be determined by the Commander's evaluation of the unit's METL which should include mobilization training requirements and the State's Crisis Response Directed Training. As a result of this analysis, the Commander will develop a task list from the ATM and include any additional task conditions, standards, and iteration requirements. The Commander will assign tasks to crew members using the DA Form 7120-R, the Commander's Task

List, or an electronically reproducible form in “nearly exactly” the same form with “all the information.” A DA Form 4889-R is used to show tasks that are required to be accomplished, the guidance in TC 1-210 must be followed and these forms must be attached to the Commander’s Task List. A complete “Individual Aircrew Training Folder” will be maintained for each individual maintaining non-rated crew member or non-crew member flying status.

Y.9.3.1 - Academic Training -

1. IAW the non-crew member academic training subjects listed in Chapter 2 of the appropriate ATM, task descriptions.
2. As appropriate and directed by the Commander, or required by the specific aircrew member task force reference statement, the aircraft operator manuals, maintenance publications, unit SOPs or additional task description developed by the CA ARNG or Unit Commander.

Y.9.3.2 - Flight Training -

IAW the appropriate ATM non-crew member CE, FE, FI, SI or Flight Medic basic task listed in Chapter 5 or as stated within an additional task description selected and written by the Commander. Mission tasks will be selected by the Commander based on the rated crew member tasks and tasks lists. Special unit tasks developed by the Commander must be clearly defined and made available to the student and the trainer. These special tasks must also be on file in the appropriate unit SOP, preferably under standardization tasks. This format includes a task name, task number, a statement of conditions, standards, description, procedure, night or NVG considerations. Appropriate references must be included as part of the task. All flight training must conform to the task descriptions. Before a crew member is signed off to perform the specific task he/she must demonstrate proficiency in the task under each mode or condition of flight that the task is to be performed. The additional task descriptions written by the commander will also specify the crew member that will perform specific actions and include the crew member that will perform specific actions and include the crew coordination instructions necessary for the non-rated crew member to effectively perform his/her role in consonance with the other crew members performing the collective task in the aircraft. Proficiency will be determined through an in-progress or end of training flight evaluation in the helicopter.

a. Flight evaluations and readiness level progressions will be documented on appropriate grade slip and DA Form 7122-R before RL progression is complete. Evaluations or training will be conducted and documented in accordance with Chapters 8 and 9 of the appropriate ATM.
b. For actual mission flying or continuation training the pilots must be RL1 unless accompanied by a SP/IE/IP/UT conducting RL2 mission training. RL-2 non-rated crew members may not conduct missions requiring a Non-rated crew member, unless the non-rated crew member has proved proficiency in all tasks that are required to complete the mission. Unit SOPs may modify this requirement but unit leadership will be held responsible for crew assignments for missions.

Y.9.4 - CONTINUATION TRAINING -

Non-rated crew members must participate in Unit Commander's required continuation training and maintain RI1 status once attaining that status. Flight tasks and iterations are designated by the Commander and the non-rated crew member must complete the tasks required by the Commander to support the unit's mission.

1. Semi annually, non-rated crew members must complete a minimum of twelve hours in the aircraft while performing crew duties and complying with AR 600-106 and the flying hour requirements of the appropriate ATM.
2. Annually, non-rated crew members must complete their physical examination, their annual standardization evaluation, and their NVG standardization during their designated quarter.
3. Semi-annual NVG requirements. See CTL.
    a. Annual NVG Standardization Evaluation requirements. See CTL.

Y.9.5 - NON-RATED CREWMEMBER POSITION DEFINITIONS -

1. Crew Chief/Flight Engineer (CE/FE). A CE/FE performs crew duties essential to the operation of the helicopter. Personnel will be trained and evaluated IAW the appropriate ATM.
2. Non-Rated Crew Member Flight Instructor (FI). FIs will be selected from the most experienced CE's to train and evaluate CE's IAW the appropriate ATM. Individuals selected for FI must successfully be evaluated by a battalion/unit SI/SP.
3. Non-Rated Crew Member Standardization Flight Instructor (SI). SIs will be selected from the most experienced FI's and will train and evaluate CE's, FI's, and other SI's. FI's selected for SI must satisfactorily complete an evaluation given by an SI or SP IAW the appropriate ATM.

Y.9.6 - CREW TRAINING -

Crew tasks are an element of the battle team tasks found in the appropriate ARTEP mission training plan. The development of crew tasks pertaining only to those tasks that involve actual flight or the planning and preparation for flight. Crew tasks are ATM tasks that more easily facilitate the training and training and evaluation of aircrews. They generally require more intense coordination by the entire crew. A very good example of a properly written crew task can be found in Figure 3-2 of TC 1-210.

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APPENDIX Z - NO NOTICE EVALUATION PROGRAM

Z.1 - FTS INSTRUCTOR EVALUATION REQUIREMENTS -

Each FTS Instructor should received a no-notice evaluation administered by a Facility SP/IE a minimum of twice per training year.

Z.2 - SUPPORT TO M-DAY UNIT NO-NOTICE FLIGHT EVALUATION PROGRAMS -

Each FTS IP should administer no-notice evaluations to M-day aviators as required to support the Unit Commander's programs.

Z.3 - PROGRAM REVIEWS –

The intent of this program is to ensure standardization and discover shortcomings or discrepancies in our training program in a timely manner. To this end, a quarterly standardization and training meeting should be scheduled by the Facility Commander, or his/her designee, at which time program findings will be discussed, problems identified, and solutions implemented. Information will then be disseminated by the Facility Commander as appropriate.

Z.4 - OPERATIONS OFFICER RESPONSIBILITIES –

The no-notice evaluations will be reviewed by the Operations Officer.

Z.5 - ODO/NODO RESPONSIBILITIES –

ODOs administer one per week as ODO (see ODO duties).

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APPENDIX AC - AIRCRAFT SURVIVABILITY EQUIPMENT

1.1 - AIRCRAFT EQUIPMENT –

- All available unit ASE will be installed on supported aircraft.
- Instructors should ensure equipment is operational and that crews exercise their knowledge of the installed equipment on every flight and simulator period.

1.2 - ASET TRAINER –

The Facility will maintain a laptop computer to support Unit tailored ASE training programs. The computer will be maintained in the secure Safe in the Operations Equipment room.

1.3 - RECORDS –

The Facility will maintain the IATF and IFRF folders to reflect appropriate training completion per current regulations and directives.

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APPENDIX AE - ENVIRONMENTAL FLIGHT

AE.1 - PURPOSE -

To aid the individual aviator(s) and flight crew member(s) in completing their mission under varying environmental conditions.

AE.2 - SCOPE -

This SOP is applicable to all personnel providing aviation support to this Facility and units supported by this Facility.

AE.3 - TASK CONTENT -

1. Task Number and Title - Each task is identified by a number and a title which is assigned a 3000-series number.
2. Conditions - The conditions specify the situation in which the task is to be performed. They describe the important aspects of the performances environment.
3. Standards - The standards describe the minimum degree of proficiency of standard of performance in which the task must be accomplished.
4. Description - The description explains how the task should be accomplished to meet the standard(s).
5. Night Considerations -Where applicable, night considerations are included.
6. References - Listed references for each task are sources of information about that particular task.

AE.4 - TASK CONSIDERATIONS-

1. References to the IP in the task conditions include the SP.
2. When UT, IP, or IE is cited as a condition, a UT, and IP, or an IE will be at one set of the flight controls.
3. Unless otherwise specified, the conditions all in-flight training and evaluations will be conducted under VMC.
4. Airspeeds will be within plus or minus 10 KIAS as identified by the instructor during the maneuver.
5. Tasks 3001-3018 are generic and each individual IP will adopt the tasks per specific aircraft for RW. FW tasks begin with task 3040 and will be applicable when fixed-wing aircraft are again assigned to this Facility. Flight tasks will not be attempted if performance planning or a hover OGE check indicates that OGE power is not available.

The following is a list of Environmental Tasks:

1. 3001, Perform Bambi Bucket Operations
2. 3002, Perform or Describe Snow/Cold Weather Operations
3. 3003, Desert Operations and Hot Weather Operations
4. 3004, Describe Turbulence/Thunderstorms
5. 3005, Dust, Sand, Snow Landing
6. 3006, Perform or Describe Mountain Operations
7. 3007, Prepare a PPC for Mountain Flying Operations
8. 3008, Describe the Meteorological Conditions Peculiar to Mountain Regions.
9. 3009, Describe/Perform Route Selection and Enroute Flight Techniques
10. 3010, Perform Mountain Take-Off
11. 3011, Perform Aircraft Performance Verification
12. 3012, Perform Go-Around
13. 3013, Perform Mountain Approach and Landing
14. 3014, Perform Mountain Landing Zone Reconnaissance
15. 3015, Perform Wind Drift Circle
16. 3016, Describe or Perform In Mountain Environment Emergency Procedures
17. 3017, Over Water Operations
18. 3018, Perform Electronically Aided Navigation
19. 3040, Mountain/High Altitude Operations
20. 3041, Over water Operations (extended)

TASK 3001 - Perform Bambi Bucket Operations	
CONDITIONS	In a cargo/utility/observation helicopter, under day VMC, with an operational Bambi Bucket. Required briefings and checks completed and aircraft cleared.
STANDARDS	A. Fill Bucket 1. Submerge bucket in water source with no forward ground speed 2. Maintain vertical ascent heading +/- 10 degrees 3. Maintain altitude of load 5 feet AWL, +/- 1 foot 4. Do not allow drift to exceed 5 feet B. Take-Off (Below Obstacles) 1. Maintain take-off heading +/- 10 degrees 2. Maintain ground track alignment w/take-off direction 3. Maintain power as required to clear obstacles C. Take-Off (Above Obstacles) 1. Maintain aircraft in trim 2. Maintain airspeed +- KIAS 3. Maintain rate of climb +/- 100 feet D. Enroute 1. Maintain aircraft in trim 2. Maintain airspeed 10 KIAS 3. Maintain obstacle clearance (minimum of 50 feet AHO) E. Approach and Water Release 1. Maintain a constant approach angle to ensure the bucket clears obstacles 2. Maintain ground track alignment with the selected approach path 3. Maintain airspeed at or above ETL 4. Maintain heading +/- 10 degrees 5. Release water on desired target using proper techniques
DESCRIPTION	A. Filling bucket and hover. Place cargo hook release switch in the ARM position per each aircraft operations movement. Submerge bucket in water source with zero ground speed. Apply cyclic, collective and pedals are required to remain vertically clear of and centered over the bucket as it fills. Slowly apply collective until all slack is taken out of cables. Make necessary corrections with the cyclic to remain centered over the bucket. Maintain heading with the pedals. Apply additional collective to raise the filled bucket to 5 feet AWL. Monitor aircraft instruments to ensure aircraft limitations are not exceeded. B. Take-off. Smoothly apply forward cyclic while increasing collective pitch to begin a coordinated acceleration and climb. Adjust pedals as necessary to maintain desired heading. Adjust cyclic and collective as necessary to attain a constant angle of climb that will permit obstacle clearance. Continue the climb out at the altitude and power until obstacles are cleared. When above obstacles, adjust altitude and power as required to establish the desired rate of climb and airspeed. Make small control movements to prevent bucket

TASK 3001 - Perform Bambi Bucket Operations	
	oscillation. C. Enroute. Maintain desired altitude with the collective and desired flight path and airspeed with the cyclic. Maintain aircraft in trim with the pedals. Make smooth control application to prevent buck oscillation. If lateral bucket oscillation occurs, reduce airspeed. If a fore-and-aft oscillation occurs, begin a shallow bank while reducing airspeed. D. Approach and water release. When the approach angle is intercepted, decrease the collective to establish the descent. Maintain entry assigned until apparent ground speed and rate of closure appear to be increasing. Progressively decrease the rate of descent and forward airspeed until desired ground speed and altitude is attained above the intended release point. A deceleration below ETL. Release water on desired target using either the spot drop or high dispersion method. With empty bucket ensure water release valve is opened above 40 KIAS for return flight to water source.
NOTES	Note 1: Before the mission, the PC will ensure that all aircrew members are familiar with procedures. Note 2: Hover OGE power is required for Bambi Bucket operations when water source is in a confined area. Note 3: Avoid flight over populated areas.
REFERENCES	FM 3-04.203 (1-203) FM 55-450-1 TC 1-201 Aircraft Operator's Manual California State Special Mission SOP

TASK 3002 - Perform or Describe Snow/Cold Weather Operations	
CONDITIONS	In a cargo/utility/observation/attack helicopter, VMC, or in a classroom with an IP/SP.
STANDARDS	A. Be familiar with the applicable information in the Operator's Manual for cold weather operations under the following conditions: 0 degree Celsius and below for UH-1. B. Ensure barrier filters (UH-1) are removed prior to flight. C. Ensure, if feasible, cold weather survival kits or sleeping bags are available to personnel on extended flights over remote areas. D. Be knowledgeable and demonstrate proficiency in snow operations for the following technique in improved/unimproved areas IAW FM 1-200, FM 3-04.400 (1-400) and the Operator's Manual. 1. Start-up and shutdown 2. Hover above and below translational lift, helicopter 3. Take-off and approaches in both improved and unimproved areas 4. Natural and man made visual cues for depth perception 5. External load hook-up, take-off, and landings, helicopter 6. Terrain flight considerations over snow covered terrain, helicopter
DESCRIPTION	Comply with the requirements above.
NOTES	IP/SPs will use this task to teach/brief/evaluate an aviator on snow operations peculiar to his/her aircraft. IPs may simulate snow conditions to evaluate proficiency in this task.
REFERENCES	FM 3-04.202 (1-202) FM 3-04.230 (1-230) FM 3-04.400 (1-400)

TASK 3003 - Desert Operations and Hot Weather Operations	
CONDITIONS	In your unit assigned helicopter, with an IP/SP, describe or perform desert/hot weather operations.
STANDARDS	A. The desert is a dry, barren, and sandy region of environmental extremes that has violent and unpredictable changes in the weather and is said to be the most severe environment in which an aviator must operate. 1. Dust, sand, and high temperatures encountered during desert operation can sharply reduce the operational life of the aircraft and its equipment, not to mention its effects on the performance capabilities. 2. The abrasive effect on turbine blades and the destructive effect of heat on the instruments will increase the maintenance workload if the preventive measures are not followed. 3. In flight, dust and sand hazards will be hard to escape. Dust clouds have been known to exceed 10,000 feet. During hot weather operations, the difficulties encountered are high engine temperature during starts, and sluggish aircraft performance. 4. In addition, in areas of high humidity, electrical equipment is subjected to corrosion fungi, and moisture absorption. 5. Be familiar with above applicable information and correctly describe appropriate action IAW references.
DESCRIPTION	A. Preparation for flight. Position aircraft so that rotor wash does not damage other aircraft. Check that landing gear struts are free of sand and dust. Check interior for accumulation of sand and dust. Open cargo door(s) and vent windows for ventilation of the aircraft. B. Engine starting. Use normal procedures but be aware that higher ambient temperatures may cause higher than normal engine temperatures. Be prepared to abort the start before temperature limitations are exceeded. C. Warm-up and round tests. Use normal procedures. D. Hovering. When practical avoid hovering over sandy terrain to minimize rotor damage and engine deterioration. E. Take-off. Assume that conditions for brownout may exist. Minimize obstruction by accelerating above ETL as quickly as practicable or using altitude over airspeed technique. Increased crew coordination and scanning is required. "WARNING," do not attempt take-off in a sandstorm or dust storm. F. During flight. Use normal procedures but avoid flying through sandstorms or dust storms when possible to minimize damage to internal engine parts and excessive bearing wear. G. Landing. An area should be identified that has minimal loose dirt/sand, if possible. Best landing procedure is a shallow approach angle and touchdown with slight forward movement. If disorientation occurs at any time during the approach, apply power and execute a go-around. If go-around is not feasible, attempt to maneuver the aircraft forward and down to limit the possibility of touch down with sideward or rearward movement. H. Before leaving aircraft. Use extreme care to prevent sand/dust from entering fuel and oil system during servicing aircraft. Install all protective covers.
NOTES	NONE
REFERENCES	AR 95-1 FC 3-04.202 (1-202) FM 3-04.203 (1-203) FM 3-04.230 (1-230) Operator's Manual

TASK 3004 - Describe Turbulence/Thunderstorms	
CONDITIONS	In a cargo/utility/observation/attack helicopter with an IP or an IE, a 2B24/38/40, or orally in a classroom environment, given a specific weather condition.
STANDARDS	Without error, describe the weather condition identified by the instructor.
DESCRIPTION	Describe the appropriate emergency procedure as outlined in the Aircraft Operator's Manual. Request appropriate emergency assistance as described in the Flight Information Handbook (FIH). A. Definition. Random fluctuations of airflow, which are instantaneous and irregular. 1. Causes. a. Thermal. Local convective currents due to surface heating or unstable lapse rate. In moist air there will be cumuliform cloud formations. Smooth air will be encountered above these clouds. b. Mechanical. Wind flowing over uneven terrain, degree of turbulence depends on wind speed, type of terrain, and stability of the air. c. Frontal. Local lifting of warm air by cold air masses, or abrupt wind shear associated with cold fronts. Vertical currents in the warm air are strongest when the warm air is moist. d. Large scale wind shear. Marked gradient in wind speed and/or direction due to general vibrations in the temperature and pressure fields aloft. B. Stability of the Air. 1. Seems to be the most important factor in determining the strength of turbulence. It is the atmospheric resistance to vertical motion. 2. The amount of moisture in the air determines its temperature lapse rate and classifications of stability, which are: a. Absolute stability. The actual lapse rate is less than the moist adiabatic lapse rate (1.1 to 2.8 Celsius per 1000'). When a parcel of air is lifted, it becomes cooler than the surrounding air and sinks back to its original position. b. Neutral stability. Has the same temperature as surrounding air, therefore has no tendency to rise or descend. c. Absolute instability. Lapse rate of a layer of air is greater the dry adiabatic lapse rate (3 degrees Celsius per 1000'). A parcel of air even slightly lifted will at once be warmer than its surrounding air and will rise rapidly. d. Conditional stability. The actual lapse rate of an air mass lies between the dry and moist adiabatic lapse rate. If the air is saturated it will be unstable, if unsaturated it will be stable. Standard lapse rate is 2 degrees Celsius per 1000'. It is used as a basis for calibrating aircraft altimeters and has no connection with determining the stability of the air. C. Degrees of turbulence. 1. Light. A condition of turbulence existing over extensive areas and altitudes. More intense in this class is found in cumuliform clouds. Also found at low levels over rough terrain with surface winds less than 25 knots. 2. Moderate. Related to the mountain wave when winds are perpendicular to a ridgeline and are 20-50 knots or more from surface to

TASK 3004 - Describe Turbulence/Thunderstorms	
	10,000 feet, as much as 300 miles leeward of the mountains. It is found in cumuliform clouds, usually in thick or towering cumulous and in strong surface winds when the winds exceed 25 knots. It is associated with an upper trough, cloud low, or front aloft where the vertical wind shear exceeds 6 knots per 1000 feet or the horizontal wind shear exceeds 40 knots per 150 miles. Finally, it is found in unstable atmospheres, frequently near the surface when moisture is insufficient for the formation of thunderstorms or towering cumulus. 3. Severe turbulence. Related to the mountain wave when the winds are perpendicular to the ridgeline at 50 knots or more, severe turbulence will be found up to 150 miles leeward; or with winds 20 to 50 knots, severe turbulence may be found up to 50 miles leeward. Severe turbulence is usually found in thunderstorms and more infrequently in towering cumulus clouds. 4. Extreme turbulence. May be found with mountain wave activity at low levels to the leeward side of ridgelines when the wind is 50 knots or greater, or infrequently at low levels with winds 20 to 50 knots. It may be encountered in thunderstorms, more frequently in growing cells. D. Reporting Criteria. 1. Light. Momentarily causes slight, rapid, and somewhat rhythmic bumpiness without appreciable changes in altitude or attitude. 2. Moderate. Greater in intensity than light. Changes in altitude or attitude occur, but the aircraft remains in control at all times. Variations in airspeed occurs. 3. Severe. There are large, abrupt changes in altitude or attitude and large variations in airspeed. The aircraft may be momentarily out of control.
NOTES	NONE
REFERENCES	FM 1-5 FIH Aircraft Operator's Manual FM 1-240 Operator's and Crew Member's Checklist

TASK 3005 - Task 3005: Dust/Sand/Snow Landing	
CONDITIONS	In a cargo/utility/observation/attack helicopter before landing check completed (see note below).
STANDARDS	A. Select a suitable landing area B. Establish the proper altitude to clear obstacles on final approach, and maintain +/- 50 feet C. Establish entry airspeed +/- 10 KIAS D. Maintain the proper approach angle to clear obstacles E. Maintain ground track aligned with selected approach path without deviation. F. Maintain appropriate rate of closure G. Make a smooth and controlled termination at the intended approach point
DESCRIPTION	A. The best procedure to minimize blowing dust, sand, and snow is a running landing. If the terrain does not permit a running landing, an approach to touchdown should be made, attempting to keep the helicopter in front of the dust/sand/snow cloud until touchdown. **CAUTION** All doors and windows should be kept closed during landings and take-offs to prevent dust, sand, and snow from entering the cockpit and cargo area. Hovering, low-altitude and low speed flight modes should be avoided whenever possible. B. Dust, sand, and snow. Before initiating the approach, become familiar with the touchdown area. If approaching an improved site, some forward speed on touchdown may be desirable. If approaching a tactical site, select a touchdown area that is level and free of obstructions, and dissipate forward speed prior to touchdown. If no obstacles are along the approach path, a shallow approach is recommended. The primary difference in this approach is in the last 50 feet. Instead of making the normal deceleration below ETL airspeed, maintain a slightly higher speed until just prior to touchdown. This procedure allows you to keep the helicopter in front of the snow, dust, or sand cloud until touchdown. Ensure windows and doors are closed. Never terminate the IGE hover, as disorientation can occur in the snow, dust, and cloud. If an approach is required to land in a confined area, or with an external load, terminate the approach out of ground effect above the touchdown point, and slowly hover vertically downward, keeping visual reference with the ground. C. Night or NVG considerations. Night approaches to the snow normally are made to a reference point on the ground (tactical lighting, or runway lights). Plan your approach to land short of the touchdown point. This procedure will ensure that you will not overshoot and have to decelerate rapidly in a snow cloud. If the landing light or searchlight is used during the approach, position this light so the beam is beneath the aircraft.
NOTES	Prior to performing snow landing, proficiency must be demonstrated to an IP/SP.
REFERENCES	FM 3-04.202 (1-202)

TASK 3006 - Perform or Describe Mountain Operations	
CONDITIONS	In a cargo/utility/observation/attack helicopter, VMC and in a classroom with an IP/SP.
STANDARDS	A. Be knowledgeable in: 1. Mountain operations as outlined in FM 1-202, Environmental Flight. 2. Mountain operations for terrain flight as outlined in FM 1-202 if required on the Commander's Task List. B. Correctly determine power requirements to safely accomplish the mission. C. Correctly compute and state the pilot's actions for insufficient pedal control, UH-1 only. Demonstrate proficiency in all phases of terrain flight operations to include take-offs and landings. Only required if on the Commander's Task List.
DESCRIPTION	Comply with the requirements above.
NOTES	IP/SPs will use this task to teach/brief/evaluate an aviator on Mountain Operations.
REFERENCES	FM 3-04.202 (1-202) FM 3-04.400 (1-400)

TASK 3007 - Prepare a PPC for Mountain Flying Operations	
CONDITIONS	Given a completed DD Form 365-4, an Operator's Manual, the mission, atmospheric conditions at take-off, enroute, and landing, and a blank PPC.
STANDARDS	Complete a PPC for mountain flying operations without error.
DESCRIPTION	A. Performance planning will be completed using the appropriate ATM and Operator's Manual. B. The same PPC will suffice for consecutive take-offs and landing where load or environmental conditions have not increased significantly, per the appropriate ATM. C. When engaged in mountain flying operations, depending on the mission, it is recommended that the reverse planning sequence be used. Pilots will include performance planning for different levels of flight, to include the highest, and then interpolate between levels using the DD Form 4887-R adapted for mountain flight.
NOTES	NONE
REFERENCES	Operator's Manual ATM FM 3-04.202 (1-202) FM 3-04.203 (1-203)

TASK 3008 - Describe the Meteorological Conditions Peculiar to Mountain Regions	
CONDITIONS	In a classroom or during flight in a mountainous environment.
STANDARDS	Accurately describe the meteorological conditions peculiar to mountain regions and, if appropriate, identify hazards to flight associated with specific mountain meteorological phenomenon.
DESCRIPTION	The pilot will demonstrate a thorough knowledge of: A. Types of wind. B. Mountain waves and rotor turbulence (vertical current, turbulence, wind gusts, altimeter error, icing, etc.). C. Effects of density altitude and temperature on aircraft performance. D. Hazards involved in snow operations. E. Types of fog common in mountainous regions.
NOTES	NONE
REFERENCES	FM 3-04.230 (1-230) Operator's Manual

TASK 3009 - Describe/Perform Route Selection and Enroute Flight Techniques	
CONDITIONS	In a classroom or during flight in a mountain environment and given weather, winds, map and a completed PPC.
STANDARDS	A. Select a suitable route B. Use correct enroute procedure IAW FM 3-04.202 (1-202)
DESCRIPTION	The pilot will demonstrate a thorough knowledge of: A. Know the characteristics of wind, particularly the windfall over and around mountainous terrain (lines of demarcation, ridges, saddles, crowns, shoulders, cliffs, canyons, etc.) and resulting turbulence. B. Route planning. By being aware of the basic principles of wind/terrain analysis, a pilot can select a route that will give a minimum of turbulence or downdrafts and maximum assistance from updrafts. C. Valley flight. When flying through a valley or canyon, the pilot should sly to one side. This gives the most room for turning around and the turn will be toward lower ground. Usually the side with the wind flowing upslope is preferred; however, if turbulence is not a factor, use the opposite side of the valley. Turns should not use more than ½ the canyon width if possible. The unused canyon width is your safety reserve. The number one rule in canyon flying is to leave room to turn. D. Terrain clearance. At all times a pilot should be in a position to fly downhill in the event terrain clearance becomes questionable. E. Downdraft recovery. Increase power to maximum power available, adjust airspeed to maximum rate of climb airspeed, if possible, turn to a terrain feature that will cause an updraft situation. If unable to arrest descent, prepare to land into the wind or upslope as the situation dictates. F. Ridge flying techniques. 1. Cross bridges at approximately a 45 degree angle as a precautionary measure in case the aircraft cannot make it over the ridge due to inadequate altitude or downdrafts. A lesser turn is required to head down slope again. 2. As a ridge is approached, take note of how much ground is visible. If you can see more ground on opposite side of the ridge, you will clear and conversely if you see less ground, you will not clear (cross reference map as necessary). G. General Guidelines. 1. File a flight plan with specific route and destination, and follow the flight plan route. 2. Plan flight over roads or well known mountain passes if possible to facilitate rescue. 3. Check enroute weather emphasizing pireps and winds aloft. 4. Maintain sufficient altitude, if conditions permit, to glide to a reasonable safe area. 5. Know the wind and analyze the effect of terrain upon int. Comparing the flow of air to the flow of water will aid in visualizing air currents. 6. Realize the actual horizon is near the base of the mountains. Using the peaks as the horizon will cause the aircraft to be in a constant climb. 7. Know the performance of the aircraft.

TASK 3009 - Describe/Perform Route Selection and Enroute Flight Techniques	
	8. Give yourself adequate room and altitude when crossing mountain passes. 9. Approach ridges and passes at a 45 degree angle. 10. If you encounter a downdraft, do not be alarmed. Adjust controls for turbulence penetration and fly out towards lower terrain. 11. Avoid flight in the middle of canyons. 12. Avoid flight too close to abrupt changes in terrain due to turbulence, especially so in high wind conditions. 13. A one mile per hour wind blowing down slope is 88 feet per minute. A five mile per hour wind blowing down slope is 440 FPM, which can easily be more than the rate of climb of your aircraft. 14. Remember the basic rule. Always remain in position that will allow you to turn and fly downhill with no more than 90 degree change of direction.
NOTES	NONE
REFERENCES	Operator's Manual FM 3-04.202 (1-202) AIM Part I

TASK 3010 - Perform Mountain Take-Off	
CONDITIONS	In a mountain environment, VMC, with hover power and before take-off checks completed, aircraft cleared.
STANDARDS	See appropriate ATM for normal take-off. Correctly select the appropriate ATM take-off (i.e. VMC, constant angle, level acceleration, airspeed over altitude, terrain, etc.) and maintain ATM take-off standards.
DESCRIPTION	See appropriate ATM and Operator's Manual.
NOTES	Where drop-offs are located along the take-off path the aircraft may be maneuvered down slope to gain airspeed. Terrain beyond the immediate confined area may be more of an obstacle than those comprising the confined area both in terms of elevation and the presence of downdrafts. Never use more than absolute minimum power necessary to complete the maneuver.
REFERENCES	Operator's Manual FM 3-04.202 (1-202) Aircrew Training Manual

TASK 3011 - Perform Aircraft Performance Verification	
CONDITIONS	In a helicopter, VMC, completed PPC.
STANDARDS	A. Confirm PPC and hover power checks. B. Perform in-flight power check over a safe area and at a safe altitude for autorotation. C. Determine if aircraft is producing predicted power to complete the operation.
DESCRIPTION	A. Perform check as soon as possible after take-off and prior to reaching the landing area. Maneuver is to be performed at a minimum of 500 feet AGL with good forced landing areas in the event of an emergency. B. All bleed air and de-ice switches off. Set altimeter to 29.92 (for PA). C. Using the appropriate chart, PA, FAT (OAT), determine maximum power available and OGE power. D. Smoothly reduce airspeed to 50/60 KIAS and then increase collective until MAX predicted power is reached while increasing airspeed back to cruise speed. This ensures climb is minimized and power readings are as accurate as possible for that PA. E. If MAX predicted power can be reached without exceeding aircraft limitations and/or N2 decay, it can be assumed the aircraft will provide power as predicted on the charts. F. If N2 decay or aircraft limitations are encountered prior to MAX predicted power make appropriate 2408-13 entries and do not use aircraft for mountain operations until released by Maintenance.
NOTES	Do not exceed any aircraft limitations. Avoid abrupt power reduction upon completion of check.
REFERENCES	FM 3-04.202 (1-202) Aircrew Training Manual

TASK 3001 - Perform Go-Around	
CONDITIONS	In a mountain environment, VMC, with before landing check complete, aircraft on approach to land.
STANDARDS	A. Approach planned with escape route. B. Go-around should be initiated before airspeed is reduced below ETL or aircraft descends below obstacles. C. Airspeed and power adjusted for optimum performance. Flight path adjusted for favorable terrain.
DESCRIPTION	A. If it is determined at any time during the approach that an unsafe condition exists, execute a go-around. A typical condition may include torque indications at or near computed maximum available, left pedal rapidly approaching full deflection, unplanned downdrafts or turbulence and ground speed greater than desired airspeed are all reasons for abandoning the approach. B. Maneuver the aircraft for optimum performance and execute escape route. **WARNING** Under certain conditions, such as high density altitude, high aircraft gross weight, crosswind or downwind approach, etc., loss of tail rotor effectiveness may be encountered as power is increased to initiate the go-around.
NOTES	Escape routes selected during the high recon may not prove to be practical at execution.
REFERENCES	FM 3-04.202 (1-202) FM 3-04.203 (1-203) Operator's Manual

TASK 3013 - Perform Mountain Approach and Landing	
CONDITIONS	During flight in mountainous terrain in VMC, with power verification, high reconnaissance, wind evaluation, landing power computed, and before landing check completed.
STANDARDS	See appropriate ATM for normal, confined and ridgeline approach. Correctly select the appropriate approach for the LZ (i.e. normal VMS, confined, ridgeline, pinnacle, or terrain) and maintain ATM standards for the selected approach.
DESCRIPTION	See appropriate ATM and Operator's Manual.
NOTES	1. When planning a touchdown to the ground, always select a precise point for the touchdown due to the high probability of rocks, slopes, etc. 2. Monitor all visual cues inside and outside of cockpit to control rates of descent and closure as well as wind characteristics. 3. When in doubt land upslope. 4. Depending on the difficulty of the approach or flight environment or both, do not combine final approach and low recon. 5.It is mandatory to have a viable plan in the event of LTE in any LZ.
REFERENCES	Operator's Manual ATM FM 3-04.202 (1-202)

TASK 3014 - Perform Mountain Landing Zone Reconnaissance	
CONDITIONS	During mountain flight in VMC, before landing check complete.
STANDARDS	A. Select correct pattern to best perform recon. B. Select and maintain best altitude and airspeed (+/-10 KIAS). C. Accurately apply Wind/Terrain analysis. D. Select best possible precise landing point. E. Select best possible approach path, take-off path and associated escape routes.
DESCRIPTION	A. When approaching the LZ, make an overall evaluation of the area for mission suitability. Determine if a take-off can be made prior to making the approach. The reconnaissance consists of a “high” and “low” recon. B. Landing area recon. Several patterns can be used for the high recon (racetrack, circular and figure eight). 1. Flight altitude should be high enough to ensure safe operations in the event of up and down drafts. Consider wind speed and terrain when selecting an altitude. 2. Airspeed should be suited to terrain and aircraft limitations (minimum rate of descent to VNE). 3. Flight patterns should be close to the LZ at angles of bank less than 30 degrees. C. The following should be determined on the landing area recon: 1. Assess LZ size, suitability, shape, slope surface, debris, shadows, and batteries. 2. Assess wind direction, speed, characteristics of wind flow and location of demarcation lines. Wind/terrain analysis is critical at this juncture and may be the only method for determining wind direction and velocity at the precise point of landing. See Task 3009. 3. Determine approach path, take-off path. Consider wind direction and speed, up and down drafts, terrain, obstacles and escape routes. 4. Assess escape routes. Establish several escape routes where altitude can be exchanged for airspeed. Plan for loss of tail rotor effectiveness. D. Low Recon. The low recon should not be conducted on the final approach but as a separate maneuver. The low recon confirms the landing area recon to include any judgments made about wind direction, velocity, location or turbulence, downdrafts, approach, take-off and escape routes. 1. Wind confirmation checks should be flown as close as possible to and/or over the LZ. Wind observations away from the LZ should be considered only as a piece of the wind/terrain analysis puzzle and not taken as definitive of the winds at your precise touchdown location.
NOTES	NONE
REFERENCES	ATM FM 3-04.202 (1-202)

TASK 3014 - Perform Mountain Landing Zone Reconnaissance	
	FM 3-04.203 (1-203)

TASK 3015 - Perform Wind Draft Circle	
CONDITIONS	During flight in a mountain environment, VMC, given a map of the area.
STANDARDS	A. Maintain constant airspeed +/- 10 KIAS B. Maintain constant altitude +/- 100 feet C. Maintain a constant angle of bank
DESCRIPTION	D. If possible, select touchdown point as your start point. E. Prior to passing over the starting point, note the heading and stabilize the airspeed (50-60 KIAS). Initiate a turn over the point maintaining a constant rate of turn. F. As the aircraft passes around the circle and through the original heading, note your position in relation to the starting point. **CAUTION** Crew members should be prepared for winds other than those anticipated. Plan the approach to the ground, if possible.
NOTES	1. The maneuver should be performed at sufficient altitude to determine the prevailing wind direction and velocity in the vicinity of the LZ. Wind/terrain analysis can then be used to determine wind direction and velocity in the LZ itself. 2. Airspeed, altitude, and rate of turn should be as constant as possible to accurately evaluate wind.
REFERENCES	FM 3-04.202 (1-202)

TASK 3016 - Describe or Perform in a Mountain Environment Emergency Procedures	
CONDITIONS	In an SFTS or orally, given a specific emergency procedure.
STANDARDS	Correctly perform/state the appropriate emergency procedure IAW the Operator's Manual, FM 3-04.202 (1-202), or FM 3-04.203 (1-203).
DESCRIPTION	The pilot will demonstrate a thorough knowledge of: A. Conditions conducive to retreating blade stall and corrective action. B. Conditions conducive to settling with power and corrective action. C. Conditions conducive to loss of directional control and corrective action. D. Landing in trees. E. The appropriate action for recovery from downdraft. F. Slope limitations and dynamic rollover characteristics.
NOTES	This task does not diminish the requirements in appropriate Operator's Manuals to memorize immediate emergency actions but rather places emphasis on actions or procedures that are either more likely to occur, are more critical in nature, or require alternate action due to high altitude environment. Example: UH-1H/V experiencing electrical driven fuel boost pumps; executing the emergency procedure for electrical fire in flight without consideration given to operating pressure altitude may result in an unintentional engine failure.
REFERENCES	Operator's Manual FM 3-04.202 (1-202) FM 3-04.203 (1-203)

TASK 3017 - Over Water Operations	
CONDITIONS	In a cargo/utility/observation/attack helicopter, describe or perform over water operations.
STANDARDS	Be knowledgeable in: A. Care, use, and the wearing of water wings. B. Know the water survival ability level of each crew member. C. Be aware of impaired depth perception. D. Know emergency for ditching, power on/off. E. Complete crew briefings. F. Correctly determine power requirements to complete the mission.
DESCRIPTION	Comply with requirements above.
NOTES	NONE
REFERENCES	FM 3-04.202 (1-202) TC 21-2121

TASK 3040 - Mountain/High Altitude Operation	
CONDITIONS	As determined by the UT/IP/SP/IE. Should as a minimum be a discussion of, and if practical, simulated or actual conditions and hands on performance by all pilots in unit assigned fixed-wing aircraft.
STANDARDS	Be familiar with applicable information and correctly describe appropriate actions IAW listed references.
DESCRIPTION	Planning should be for actual conditions or at a lower altitude with computed requirements to simulate higher terrain/airfields. These computations should be used during actual hands on performance ensuring runway is of adequate length. A. Take-off. Complete before takeoff, and lineup check. Apply maximum power. Note the additional runway required and reduced rate of climb after lift-off. At approximately 500 feet AGL continue with a normal climb procedure utilizing reduced performance computations. B. Cruise. Use normal cruise procedures, being aware of the increased possibility of the turbulence level due to uneven terrain. C. Landing. Plan a normal landing being aware of the increase in all of the above factors. If the approach is over a bluff to the touchdown area, a steeper than normal approach might be considered to remain clear of turbulence that could be encountered.
NOTES	NONE
REFERENCES	AR 95-1 FC 1-218 FM 3-04.202 (1-202) FM 3-04.230 (1-230) Operator's Manual FAA Ciculars FAA Video Cassettes

TASK 3041 - Over Water Operations - Extended	
CONDITIONS	As determined by the UT/IP/SP/IE, a minimum with hands on discussion of and if practical, simulated or actual conditions with hands on performance by all pilots in unit assigned fixed-wing aircraft.
STANDARDS	Be familiar with applicable information and correctly describe appropriate actions IAW listed references.
DESCRIPTION	Planning should be for actual conditions or simulated over water situations. Discussion will be per references listed below emphasizing the emergency procedures contained in Chapter 9 of the Operator's Manual.
NOTES	NONE
REFERENCES	AR 95-1 AR 95-3 FM 3-04.202 (1-202) FM 3-04.230 (1-230) FAA Advisory Circulars FAA Handouts/Videos FARs Operator's Manual

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APPENDIX AG - PHYSICAL SECURITY

AG.1 - PURPOSE.

This SOP outlines physical security procedures and provides guidance for this Facility. This security program is designed to prevent losses due to theft, vandalism, and carelessness. It is also designed to protect Facility and M-day personnel working/flying at the Facility.

AG.2 - SCOPE.

This SOP governs the following:
Personnel (all personnel assigned, attached or OPCON to the Facility)
Equipment (all equipment assigned, loaned or hand receipted to the Facility)
Aircraft (all aircraft hand receipted or under the control of the Facility)
Buildings (Hangar #1, Hangar #2, Butler Building and Bldg #913)

AG.3 - RESPONSIBILITY.

Physical security of the Facility is the responsibility of the Facility Commander. The Facility Commander will appoint a Physical Security Officer (technician) and Key Control Custodian(s) for all Facility buildings, equipment, aircraft and vehicles. The Physical Security Officer will assist the Facility Commander in the management of the Physical Security Program. The Physical Security Officer will assist the Key Control Custodian(s) in key control. Each employee or M-day soldier will report any security violation or suspicious activity to the Facility Commander, Operations Duty officer or Maintenance Supervisor immediately upon detection.

AG.4 - RISK ASSESSMENT AND INSTALLATION SECURITY.

This Facility is a DOD tenant located on the Los Alamitos Armed Forces Reserve Center (AFRC), a U.S. Army Installation, licensed to the California Army National Guard. The AFRC is a secure, fenced military installation. The AFRC is located in Orange County, California. The AFRC has further declared Los Alamitos Army Airfield (AAF) as a Restricted Area IAW AR 190-51 and FM 19-30.

AG.5 - FENCING.

The AFRC has provided a six foot high chain link and barbed wire fencing and limited access gates along the flightline adjacent to the cantonment area. Gates, whose locks are controlled by AFRC Security, are located along the length of the flightline. These gates will remain locked/closed during all hours (access codes are provided to authorized personnel).

AG.6 - SECURITY PATROLS.

The AFRC Security Department provides personnel with marked security vehicles whom patrol the entire installation and provide immediate reaction physical security. Additionally, the AFRC Security personnel provide roving vehicular flightline security. Mutual air support from local law enforcement agencies is detailed in the AFRC Physical Security Plan.

AG.7 - TERRORIST ACTIVITIES.

In the event that higher headquarters determines the AFRC or it tenants are threatened, OTAG and the AFRC will declare a Threat Condition (THREATCON). The AFRC will then direct additional security measures to be implemented as appropriate to the situation IAW AR 525-13 and OTAG guidance.

AG.8 - PHYSICAL SECURITY PLAN-STATE.

The OTAG, CA ARNG, and the AFRC have conducted an installation risk analysis and developed an installation wide physical security plan. The Facility is included in the AFRC physical security plan. The AFRC Physical Security Plan is classified.

AG.9 - PHYSICAL SECURITY PLAN-JTFB.

The Facility Physical Security Plan consists of the following:

AG.10 - PERSONNEL.

Personnel access is limited to only authorized personnel.

AG.10.1 - AUTHORIZED PERSONNEL.

Defined as employees (permanent or temporary) of the Facility and M-day aviation personnel. All personnel are required to carry their respective military or DOD civilian ID cards at all times. All visitors must report to Operations in Bldg #913. Visitors must be escorted anywhere in the hangars or flightline. The Facility escort will coordinate with the Los Alamitos AAF Operations prior to taking any visitors on the flightline.

AG.10.2 - UNAUTHORIZED PERSONNEL.

If any unauthorized personnel are discovered within the Facility work areas they will be escorted to Operations or the appropriate Maintenance Supervisor. If unauthorized personnel are detected on the flightline, Los Alamitos AAF and AFRC Security will be immediately notified.

AG.11 - AIRCRAFT.

AG.11.1 - MAINTENANCE BRANCH.

All aircraft not undergoing maintenance will have their cockpits locked with the ATSCOM approved locking devices. The Maintenance Branch aircraft keys will be secured in the Maintenance Branch Key Box. Maintenance will ensure all aircraft located outside the hangars (i.e. flightline, wash racks, etc.) are locked prior to the end of the duty day.

AG.11.2 - OPERATIONS BRANCH.

The Operations Branch aircraft keys with the aircraft's DOD Form 1896 (identaplate) will be secured in a locked container in Bldg 3913 and only issued IAW the Operations Branch SOP. Aircraft keys, identaplates and associated aircraft equipment will only be issued to Facility authorized aircrews. The Pilot-in-command is responsible for the aircraft and all of its associated equipment after they have been issued to him/her. Upon termination of each flight, the PC will immediately turn in all aircraft keys and equipment to Operations.

AG.11.3 - MILITARY AIRFIELDS.

In the event an aircraft under Facility control is required to remain over night at a military airfield, the PC will ensure that the Base Operations of that airfield is notified of the aircraft's status, local address and phone number(s) of the aircrew and additional security measures required.

AG.11.4 - CIVILIAN AIRPORTS.

In the event an aircraft under Facility control is required to remain over night at a civilian airport, the PC will contact the Airport Manager to determine the level of physical security provided by the airport.

AG.12 - VEHICLES AND EQUIPMENT.

When not in use, all vehicle and lockable ground support equipment (GSE) will be locked/secured and their respective keys will be locked in the Maintenance Branch key boxes. Vehicle and GSE keys will only be issued IAW the Maintenance Branch SOP. All vehicles and GSE is subject to search as part of the AFRC Security Plan. No civilian vehicles are permitted south of the airfield perimeter fence.

AG.13 - SUPPLY.

All incoming/outgoing material and supplies will be handled by Technical Supply, located in the West end of Hangar #2. Supply personnel will supervise, inspect loading and unloading at all times. Maintenance Supervisors are responsible for the security of material and supplies in their respective area. In the event that Technical Supply is closed (i.e. Mondays or after hours Tuesday-Friday), Operations is authorized to accept receipt of incoming supplies only (i.e. FedEx, UPS, etc.).

AG.14 - BUILDINGS.

Building/office keys will be issued to personnel whom the Facility Commander has deemed to have a need for access to the respective building/office. This includes Facility employees, attached/OPCON, SAD, AGR, M-day or civilian personnel. The Facility Key Control Custodian(s) will maintain an inventory of all buildings, aircraft, vehicle/equipment, cabinet and key box keys. Each key issued will be signed for on the appropriate DA/CA ARNG Form.